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# An Introduction to the Theory of Architecture

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I. The Value and Function of Theory in Art .. .. .. .. .. 233
II. The Definition of Art .. .. .. .. 234
III. The Method of Approach .. .. .. 235
IV. The Expressionist Theory .. .. .. 235
V. Criticism of the Expressionist Theory .. 236

STATEMENT OF A GENERAL THEORY OF ART. VI, VII, VIII, IX.

VI. The Mental Substance of Art .. .. .. 238
VII. The Purpose of Art .. .. .. .. 240
VIII. Beauty and Truth in Art .. .. .. 240
IX. The Technique of Art .. .. .. .. 241

STATEMENT OF A THEORY OF ARCHITECTURE. X, XI, XII, XIII, XIV, XV, XVI, XVII.

X. The Conception in Architecture .. .. 244
XI. Technique in Architecture .. .. .. 246
XII. Principles of Expression .. .. .. .. 247
XIII. Truth in Architecture .. .. .. .. 249
XIV. Unity and Beauty in Architecture .. .. 249
XV. The Appreciation of Architecture .. .. 251
XVI. Empathy .. .. .. .. .. .. 251
XVII. Conclusion .. .. .. .. .. .. 252

No useful development of theory could be conceived which did not take into critical account the contributions of the past, and which did not owe much to them. I would not, therefore, seek to minimise such debts of the present essay. Where my obligations are not specifically acknowledged, it is because I have assumed that the sources in question are too well known and generally accepted for it to be necessary to mention them, and because I have wished to avoid over-documentation.

Briefly stated, the object of the essay is to formulate a theory of architecture on the basis of a general theory of art. This has meant a representation of architectural theory from a point of view and in a manner not hitherto adopted by theorists in architecture, though some of the elements of my thesis are implicit in their works. How far the position and method chosen are right must, of course, ultimately be judged by the extent to which the conclusions reached are held to correspond with the facts of art in general and of architecture in particular.

## I

IT is sometimes maintained that to attempt to state or discuss the theory of an art is an illusory and profitless exercise of the mind; and that it is only in periods of artistic decadence that the arts become the subject of literary analysis.* The real artist, it is asserted, does not theorise about his art, he practises it—and leaves the theoretic field to those who care for the irrelevant for its own sake.

Two defects in this position render it untenable. One is a confusion of thought, the other an error in historical fact.

The first proceeds from the idea that the intention of theory in art is not simply to discover, as far as may be possible, the nature, function and means of art, but to show how art can be created. This idea attributes to

* *The Ministry of Art*, by R. A. Cram (London: Constable, 1914), pp. 67 and 216.

artistic theory an end it could never reasonably have in view. Theory does not seek to supplant what is called inspiration, but to supplement it ; it does not offer an intellectual system as an equivalent for the creative faculty ; it puts knowledge at the disposal of the artist. It has, in effect, a twofold purpose—to clarify understanding and to increase power. What art is, what it sets out to do and how it does it, those are the issues with which the theory of art is concerned. Neither artist nor audience can afford to leave them in obscurity. A clear comprehension of the right answers to the questions they present must inevitably give to artistic activity a greater certainty of direction, a more absolute precision of aim ; and to those who experience the effects of that activity a more vivid and just appreciation.*

The second fallacy in the conception of theory as an affair outside the direct concern or even remote interest of real artists can be easily exposed. Undeniably there are and have been many artists and amateurs of art whose mental limitations have rendered them perforce indifferent to artistic theory. But this attitude is not itself evidence that the persons who exhibit it are therefore endowed with true artistic ability, nor is it symptomatic of periods of exceptional virility in the arts. To a vast number of artists, including those not least distinguished, the precise nature of art, the ends it proposes and the means it adopts have been and continue to be the subjects of profound interest ; and that not simply for intrinsic reasons but also for purposes of corrective criticism. In all ages of liberal thought—ages that have synchronised with great artistic movements from antiquity up to the present time—architects, musicians, painters, and writers have sedulously endeavoured to examine the constitution of their respective arts and have contributed at length to the theoretic literature of their subject. The bibliography of architecture amply illustrates this truth. During the great epochs of Greek and Roman building,† during the culminating periods of the Renaissance in Italy, France and England, and later throughout Europe and America, architects have formulated their creed as artists, have established principles of practice and canons of judgment. They have been impelled to do this, not when the authentic spirit of art has been absent, but when it has been most vividly present, when it has informed whole schools and been immanent in works of genius. In short, the view of theory as a thing adventitious and parasitic, attaching itself to art only when art is in process of decay, cannot be justified either philosophically or historically.

If the result of theoretic study has not yet been to reach finality, it is not because those who have occupied themselves with it have been engaged upon a vain endeavour. The data with which the theory of art is concerned is of a highly varied and complex kind. Problems are presented not less difficult or provocative of discussion than those which occur in logic or ethics. Arguments and theses that once seemed satisfactory are found by experience to be inadequate to explain all the facts. Values have to be revised and truths restated. For these reasons alone theory which is to comprise any body of proved and enduring doctrine must inevitably be the work of generations.

## II

A study of the nature, function and means of a particular art involves an analysis of the nature, function and means of art in general. For architecture, painting, sculpture and all other forms of artistic expression are recognised as being simply different manifestations of a special kind of activity that is essentially the same in character and intention, however it may present itself, whether through a building, a poem, or a sonata. This fact is, indeed, expressed in the use of the common term art.‡ A basis of agreement is thereby tacitly implied—though the precise kind and degree of that agreement is not always realised. Art is, in fact, a word quite often loosely used and extended to cover what are simply exercises of some special skill.§ Thus one hears people refer to the " art of cooking," the " art of conjuring," and the " art of diplomacy." But these things, it will be on reflection admitted, are not arts in the sense in which architecture, music and sculpture are arts. There is, to take but one illustration, a profound disparity in nature and intention between two such operations as the mixing of an omelette and the composition of a symphony. Yet the word art will be used in connection with both. It becomes, then, necessary to describe more clearly what we mean when we speak of art. We cannot hope to define it absolutely, since all knowledge is relative and involves *a priori* assumptions of one sort or another. But we can at least establish a distinction between art and such processes of skill as are exemplified by cooking, conjuring and diplomacy. And this I think it necessary to do now even at the risk of anticipating something of my main argument.

The distinction may be made upon many grounds. There is, however, one elementary difference of purpose which it is possible to state quite simply at the outset and which may suffice at this stage. When a painter sets out to paint a landscape, actual or imaginary, he does so because he wishes others to see that landscape as he himself has seen it, to realise it with all its implications precisely as he has realised it. When an architect de-

* Cf. *Reason in Art*, by George Santayana (New York : Charles Scribner's Sons, 1921), pp. 149–151.

† *Vitruvius : The Ten Books on Architecture*, translated by M. H. Morgan (Harvard University Press, 1914), pp. 198–199.

‡ *The Things which are Seen*, by A. Trystan Edwards (London : Philip Allan and Co., 1921), p. 277.

§ *The Attribute Proper to Art*, by T. H. Lyon (London : Selwyn and Blount, 1921), p. 75.

signs a building, he means it to produce on the minds of those who behold it an impact identical with that made by the conception on his own consciousness ; he wants it to set up the same intellectual and emotional reactions, to have the same spiritual effect. Here we have a clear and final distinction between the purpose of art properly so called and whatever may be the varied purposes of those other activities to which the name of art is frequently and incorrectly given. Art aims at transmitting creations of the mind so that they reproduce themselves as definite and complete experiences. Activities that are styled arts and that have not this object —and our instances of cooking, conjuring and diplomacy represent a large class—are falsely designated. But architecture, painting and sculpture, literature, poetry, drama and music all come within the authentic category. They satisfy the same test of purpose. They are truly arts.

## III

Because the philosophy of art as a whole must comprehend that of architecture, our main argument will first be developed for the greater part in general terms. I shall then proceed to apply it directly to architecture and to observe how it works in that sphere. By this means I trust to avoid a common defect of theories derived in the first instance from individual arts and consequently based upon data of too restricted a kind. From limited and superficial evidence, principles have been induced and held to apply to arts the governing conditions of which are in many respects widely different.* Sooner or later it becomes apparent that the practice of these arts ignores or directly contradicts the rules prescribed for them and does so with admirable effect. Exceptions are, moreover, frequently discovered in the phenomena from which the conclusions were originally derived : and the whole theoretic structure is undermined and collapses. The lesson is sufficiently obvious. If the theory of an individual art is to be securely established, its foundation must rest on something broader than its own special facts. It is necessary to examine that which underlies all particular manifestations before we can hope to arrive at what is essential or to discover the fundamental laws in obedience to which practice is successfully motived in any art.

## IV

I propose that our own inquiry should begin at the point to which investigation of the nature of art has been carried by the philosophy of Benedetto Croce.† For the theory of art I have to propound in this essay has its genesis in that philosophy. It departs, however, from Croce's doctrine at cardinal points, and certain of its principal conclusions directly conflict with those at which Croce himself arrives. But the first grounds of my thesis are drawn from his now famous expressionist theory, because it has seemed to me that by that theory more than by any other yet put forward the basic phenomena of art are accurately defined and at the same time segregated from alien considerations. With the historical antecedents of Croce's Aesthetic ‡ we need not concern ourselves. It is generally admitted that the work of ancient philosophy and of all subsequent study in aesthetic has been absorbed in his researches. So much those who disagree with his conclusions will concede. His disciples—and their numbers seem constantly to be increasing—claim considerably more. They assert that he is not merely the greatest aesthetician of our age, but the greatest that has yet appeared in the history of philosophy ; and they claim for the theory of art he offers that, besides being admirably simple and direct, it is the only one that convincingly explains what art is, establishes its real relation to beauty and determines true artistic values.§ These are large claims, and the fact that they are frequently made and widely accepted is in itself a reason for subjecting them to careful scrutiny and for testing their validity in architecture. Filtering through translations and explanatory works ‖ and through articles in literary reviews, Croce's philosophy is being diffused amongst artists and amateurs. By many it is received with enthusiasm since it can be interpreted so as to give a specious cloak of logic to illogical prejudices, or can be employed to justify a facile agnosticism in artistic matters. By others it is being supported on more serious grounds. But the rapidly growing popularity, the topical importance of Croce's Aesthetic is not the reason I would advance for taking it as the first object of our consideration. I propose that we should do so because I believe that in the expressionist theory he has set forth, whatever fallacies may or may not be comprised within it, there is actually to be found the nucleus of a theory which, properly developed,

* Vide *Laocoon*, by G. E. Lessing, translated by Sir Robert Phillimore (London : George Routledge and Sons). Cf. Walter Pater : " All art constantly aspires towards the condition of music " (*The Renaissance*, by Walter Pater (London : Macmillan and Co., 1912), p. 140).

† *Filosofia dello Spirito. I. Estetica come Scienza dell' Espressione e linguistica generale*, by Benedetto Croce (Laterza e Figli, Bari, 1902). English translation (from 3rd edition, Bari, 1909), *Aesthetic : Benedetto Croce*, by Douglas Ainslie (London : Macmillan and Co., 1909).

‡ Vide Historical Summary in Croce's *Aesthetic*, English translation, pp. 251–369 ; or cf. *A History of Aesthetic*, by B. Bosanquet (London : George Allen and Unwin, 1917).

§ Vide Prefaces by Douglas Ainslie to English translations of Croce's *Aesthetic* (Macmillan, 1909) and *The Essence of Aesthetic* (London : William Heinemann, 1921). Cf. *The New Laokoon*, by Irving Babbitt (Boston and New York : Houghton Mifflin Co., 1910), pp. 223–228.

‖ E.g., *The Philosophy of Benedetto Croce*, by H. Wildon Carr (Macmillan and Co., Ltd., London, 1917).

accounts for the facts of every art, and which illuminates the practice of each, of architecture no less than of the others.*

Freed from its esoteric and over-specialised vocabulary, that part of Croce's Aesthetic which immediately relates to art may for our purpose be summarised as follows :—

All art consists of intuitions, that is, of mental images received into consciousness from sensations and perceptions. These images are apprehended without reasoning : they are spontaneously and automatically efformed. In so far as they are true intuitions they are unities fully expressed in the mind. An intuition cannot be said to exist except it be known to mind by being expressed, and by being expressed as a unity. Beauty is complete, ugliness incomplete expression. Neither beauty nor ugliness is inherent in external phenomena, whether natural or artificial. They are the products of a form of the activity of mind. When that activity is successful, when an intuition is fully expressed, beauty results. Beauty is, in effect, art : and art is mental.

Intuitions have not the power to be more or less than whole : as unities they cannot differ in degree of completeness. But it is possible for their content to vary in amount. They may be rich or poor, simple or complex, and it is by the relative richness and complexity of an aesthetic intuition that its value may be judged. The richer and more complex the intuition, the greater the art. For art by its nature is quantitative, not qualitative.

In order to communicate art, it must be externalised; and what are called works of art are simply the outward symbols or indices serving to externalise intuitions. Their function is to act as stimuli to the intuitive faculty in other people—who in their turn themselves become artists efforming in their own minds aesthetic images. The process of appreciation is thus the same creative process recognised in the artist as intuition.

As art is intuitive mental expression and as the intuitive faculty of the mind is by its nature outside logical control, it is vain to endeavour to construct a theory of art that can be practically applied, and vainest of all to attempt to do so by analysing the stimuli known as works of art, which are external to mind. " Such inquiries are as if in Political Economy one were to seek for the laws of exchange in the physical nature of the objects exchanged." †

It is, then, incorrect to speak of a technique of an art in the sense of a theoretic system of design, for there can be no system. Technique can only rightly be used in reference to the devices which assist an artist to externalise his expressions. " Thus is born a theory of architecture comprising mechanical laws, information relating to the weight or the resistance of the materials of construction or of fortification, manuals relating to the method of mixing chalk or stucco ; . . . Such collections of precepts abound in all literatures. And since it soon becomes impossible to say what is useful and what useless to know, books of this sort become very often a sort of encyclopædias or catalogues of desiderata. Vitruvius, in his treatise on Architecture, claims for the architect a knowledge of letters, of drawing, of geometry, of arithmetic, of optic, of history, of natural and moral philosophy, of jurisprudence, of medicine, of astrology, of music and so on. . . . Were we to give a scientific form to the manuals of the architect, the painter or the musician, it is clear that nothing would remain in our hands but the general principles of Mechanic, Optic, or Acoustic." ‡

The idea that impersonal principles of design can be induced from a study of external forms is, in short, an illusion. Art is the personal product of the individual mind and can by no means be conjured out of its nature or domain.

## V

A just estimate of Croce's " philosophy of the beautiful " must admit that in certain directions it advances further than any previous Aesthetic. For the first time the intuitive basis of art is definitely established. An autonomous non-logical faculty of the mind is revealed as originating mental images : these whether simple or complex are, when successfully realised, whole : each is a complete coherent unity. Furthermore, the quantitative factor in art, though given too absolute a value, is effectually stressed, as it has not been in any earlier theory. Finally, the process of externalisation is clearly distinguished from that of mental expression and the true function of works of art—as stimulants of the intuitive faculty—is assigned to them.

These very considerable achievements may be set to the credit of Croce's philosophy. They are the results of a new method of approach to the subject and stand as landmarks in the development of the theory of art. So much must be emphasised because in other respects the expressionist doctrine, of which they are integral elements, is open to fatal objections.

In the first place, Croce mistakes the stuff of art for art itself. Intuition-expressions are not art, they are the mental material from which art is made. In equating

* Whilst my initial premises are derived from Croce, I am indebted, for much critical help in their subsequent development, to Mr. Lascelles Abercrombie, with whom the main lines of the present theory were originally discussed. Mr. Abercrombie has since published the results of his own investigation of the subject in *An Essay towards a Theory of Art* (London : Martin Secker, 1922). The importance of such a work from his pen I do not need to stress. It is, however, only fitting that I should say that a perusal of it must incidentally reveal, as no merely formal acknowledgment of mine can do, the extent of my obligations to him.

† *Aesthetic*, by Benedetto Croce, trans. by Douglas Ainslie (Macmillan and Co., London, 1909), p. 178.

‡ *Ibid.*, pp. 185–187.

art with expression and expression with beauty, Croce assumes that all mental images that are complete are *ipso facto* beautiful. It is indispensable to his argument that he should do so. But the assumption is unrelated to facts. Intuitions of ugliness are a universal experience. And as to beauty, whether we conceive it, as it is conceived in an open system of philosophy, to be a form of reality external but in a measure known to mind, or whether, as in a closed system, we associate it with a phase of mental activity, it appears to us in either case to be an effect produced by works of art, not art itself. We do not create beauty: we create art, and the phenomenon of beauty is one of the consequences. Art is an external product, beauty a quality that results from art. Expression, again, as Croce uses the term, is a form of mental activity. There can be no equation of these things; they are fundamentally dissimilar and their dissimilarity vitiates an essential part of his thesis.

But the superstructure which Croce raises upon the mirage of their identity is even more deceptive. The entire case which he makes to prove the inutility of any grammar of art stands or falls by one elementary test. Is the process of externalisation a simple copying, a literal reproduction of the mental image, or is it not? To put the question in another way: Does the intuition already exist elaborated in the mind in the identical terms in which it is ultimately embodied in what is called a work of art? If so, then Croce is right, for, as the intuitive image obeys no logical laws, it would be absurd to apply them to its material duplicate. But to suppose that intuitions form themselves in this manner is contrary to experience and common sense.

In playwriting—and the same holds good of any other art—between the immediate apprehension of a subject, theme or *motif* and its externalisation there is a process of development into which logical factors enter and which is sometimes dominated by them. All dramatic intuitions have to be *worked out*. The larger and more complicated the subject, the more obviously is this true. Though intuition also operates in giving to an image a body, so too, does intellect, developing, modifying and rejecting according to conscious critical standards. Theoretic action cannot, indeed, rightly be eliminated at this stage, if a work of art is to achieve its intended effect.*

Analysis of the externalised forms of any art shows that certain motives, certain arrangements of its elements produce certain effects. Of these facts the artist avails himself when he wishes to communicate his intuitions; he can do so consciously and upon logical grounds. From the study of works of art, empiric principles are evolved constituting a technique or contingent grammar of design. In architecture, as much as in literature, an artist renders himself intelligible by observing the grammatical laws of his art. Croce in attempting to limit the architectural application of the word "technique" to Mechanic does not appear to appreciate the significance of his own definition of the term, "*Knowledge employed by the practical activity engaged in producing stimuli to aesthetic reproduction.*"† That is precisely what the theory of design is in architecture, and in every art, and that is what it has always been.

Discoursing upon "Technique and the Arts," Benedetto Croce observes "this last case (that is, the attempt to furnish a technique of Aesthetic) is found when men possessing strong scientific instincts and a natural tendency to philosophy set themselves to work to produce such theories and technical manuals." ‡

The retort may very justly be made that the case of Croce himself occurs when a philosopher, having a profound distrust of intellectual processes in art, endeavours to devise a system that will exclude them. In the instance just quoted—as elsewhere—he obscures the issue. The writers whom he dismisses as overreaching scientists do not attempt to furnish a technique of intuition at all, but a technique of externalised form, which, as we have seen, is a thing perfectly possible.

This confusion between the conditions of intuition and those of externalisation is one of long standing. Oscar Wilde, in his essay "Pen, Pencil and Poison," repeats with approval an aphorism of Wainwright's: "I hold that no work of art can be tried otherwise than by laws deduced from itself: whether or not it be consistent with itself is the question." § The observation is true so far as it relates to the mental image, and false regarding the presentation of the image. Intuition is personal, a law unto itself. Externalisation is subject to general impersonal laws. The value of an intuition can only be judged by experiencing it; but the success with which it is externalised can be estimated by reference to common empiric principles which are independent of the intuition, and which govern its conveyance to an audience. Croce, though the first aesthetician to separate definitely the inward from the outward mental activity, remains in this respect much in the same position as many of his predecessors because he is blind to the consequences of the distinction he has made.

Art is the externalised product efformed from intuitive material for purposes of communication, and as such it must be conceived in harmony with the empiric principles of communication. To convey an idea in speech or writing from one person to another, verbal or

* "In der Kunst muss der Gedanke immer auf Verwicklichung gerichtet sein, und in der Darstellung die Kritik heraustreten, die dem schöpferischen Geiste notwendig beiwohnen muss."—Karl Friedrich Schinkel (*Schinkel*, by Hermann Ziller (Leipzig, 1897), p. 104).

† *Aesthetic*, by Benedetto Croce, trans. by Douglas Ainslie (Macmillan and Co., London, 1909), p. 183.

‡ *Ibid.*, p. 187.

§ Oscar Wilde, *Intentions*, "Pen, Pencil and Poison" (Methuen and Co., London), 8th Edition, p. 68.

literal forms must be employed that will be understood by both, a common grammar or empiric convention must be obeyed or the end in view will be frustrated. The same necessity obtains in every art. When it is ignored, incoherent, impotent works are the result.

The accusation may fairly be brought against Croce that he frequently fails to realise the implications contained within his own reasoning. Thus he demonstrates with perfect lucidity that the circumstance of architecture being conditioned by utility in no way prejudices its claims to be considered a fine art :

" Another division of the beautiful which is still found in treatises is that into *free and not free*. By beauties that are not free are understood those objects which have to serve a double purpose, extra-aesthetic and aesthetic (stimulants of intuitions), and since it appears that the first purpose limits and impedes the second the beautiful object resulting therefrom has been considered as a beauty that is not free.

" Architectural works are especially cited, and precisely for this reason has architecture often been excluded from the number of the so-called fine arts. A temple must be above all things adapted for the use of a cult, a house must contain all the rooms requisite for commodity of living, and they must be arranged with a view to this commodity, a fortress must be a construction capable of resisting the attacks of certain armies and the blows of certain instruments of war. It is therefore held that the architect's field is limited ; he may be able to embellish to some extent the temple, the house, the fortress, but his hands are bound by the object of these buildings, and he can only manifest that part of his vision of beauty in their construction which does not impair their extrinsic but fundamental objects. . . .

" In respect to all this, we must observe, in the first place, that the external purpose, precisely because it is such, does not of necessity limit or trammel the other purpose of being a stimulus to aesthetic reproduction. Nothing, therefore, can be more erroneous than the thesis that architecture, for example, is by its nature not free and imperfect, since it must also fulfil other practical objects. Beautiful architectural works, however, themselves undertake to deny this by their simple presence.

" In the second place, not only are the two objects not necessarily in opposition, but we must add, the artist always has the means of preventing this contradiction from taking place. In what way ? By taking, as the material of his intuition and aesthetic externalisation, precisely the destination of the objects which serve a practical end." *

It is all clearly seen and admirably stated, but the corollary of the argument is not apparently even so much as suspected. If intellectual faculties can be exercised in the choice of the subject to be intuified—as Croce tacitly admits they can be—then, given the intuition, they can determine also the way in which it shall be embodied. For both these selective processes come within the sphere of rational thought, both propose to themselves deliberate ends, and for the satisfaction of both logical means exist. Intuition alone it is that simply happens, and having no end has no means.

* *Aesthetic*, by Benedetto Croce, trans. by Douglas Ainslie (Macmillan and Co., London, 1909), pp. 165–167.

## VI

Our examination of Croce's philosophy being carried thus far, I shall now proceed to the more constructive task of attempting to state a theory of art which, though it originates in Croce, moves to another conclusion. In my criticism of Croce's Aesthetic I have already to some extent anticipated this task. It remains, however, to develop the theory as a co-ordinated whole.

Intuitions are the mental substance of art. Every intuition reveals in analysis two complementary elements, content and form, both of which are equally essential to its existence. Content comprises the subject-matter of the intuition : in the case of an architectonic image this would be the sum total of a certain group of spiritual and practical requirements, in a word, what is technically called the programme : in a pictorial intuition visible phenomena and their associations would be the content. Form is the ordered pattern in which the subject-matter so presents itself to the mind that it constitutes a perfect unity. Content and form are indissolubly fused in the intuitive image as it occurs. But they may be distinguished from each other for theoretic purposes, and it is useful that they should be. The necessity of form in works of art, the symbols of intuitions, has long been established † and accepted, a necessity arising in the last resort from the fact that unity is an essential characteristic of every true intuition, so that we only know when we possess one by our grasp of it as a separate and complete experience. On the other hand, the proper nature of content and its importance have been less well understood. More especially has this been so in recent theories of art. The process of classifying and delimiting the respective subject-matters of the different arts, already carried too far in the nineteenth century ‡ (a result of pseudo-scientific influences), has to-day led to the invention of " pure " values in music and the visual arts. These values alone are held to count. To each kind of art a narrowly restricted province is assigned and the content of each is limited to what are termed " aesthetic " elements. Music is to present no more than a pattern of sound in time, painting simply composition in colour and tone ; architecture, the arrange-

† *The Poetics of Aristotle*, translated by S. H. Butcher, 4th Edition (London : Macmillan and Co., Ltd., 1917), pp. 31–35.

‡ *The Fine Arts*, by G. Baldwin Brown (London : John Murray, 1916), 4th Edition, pp. 205–207.

ment of three-dimensional shapes or " the expression of plastic ideas," as it has been called*—and so on. Everything in the nature of associative interest is to be excluded and everything that has a meaning. And as a supreme stroke of unconscious irony, to the works complying with these rules the name of " significant form " has been given.†

Now apart altogether from the fact that any art of which the subject-matter was thus restricted would inevitably perish of sheer inanition, this arbitrary reduction of content is not, never has been, and never could be an absolute and invariable condition of true artistic activity. The reason is simple. By far the greater number of our intuitions are composite images in which all manner of conceptions, associations and related knowledge are inextricably interwoven. However much we may try, we cannot eliminate these things or the interactions that are set up between them : we cannot abstract a part and ignore the remainder. Nor does any real artist attempt to do so in dealing with a complex intuition : for it is its very complexity that gives it strength and interest and that makes it effective artistic material. No one—unless indeed he be that remarkable phenomenon of modern criticism " the pure visual "—can contemplate, for example, Rembrandt's *Presentation in the Temple* and see in it nothing but a patchwork of colour and an arrangement of spaces and planes. The significance of the representative elements in that work and its dramatic import are as inescapable as their artistic value is immense. Illustrations of a similar character could be multiplied indefinitely in music, architecture and sculpture. To describe the intuitive content of such works as " impure " is not merely to use an epithet that is invidious and question-begging : it is to speak altogether beside the point. For the subject-matter of art has no concern with either purity or impurity, in the sense implied. Richness and vitality are the attributes that should distinguish it, and, for the rest, it does not matter from what sources the material is taken. Certainly in all arts there are to be found works of which the intuitive subject-matter is, to employ the fallacious adjective, " pure." But those works are not on that account to be reckoned as superior to others which have a more complex content. They exploit only a particular and very limited field, the possibilities of which are soon exhausted.

When, to take a case in point, fashionable critics profess to appreciate architecture for its " pure " qualities and rule out of consideration everything else on the score that it is adventitious and extrinsic to the fundamental nature of the art, they take up a false, if exclusive, position. For the whole business of architecture as an art is not merely the " expression of plastic ideas." Architecture has also to serve as the vehicle of intuitions that embody much more besides. It must express qualities of character, of social and traditional significance. It cannot reasonably be dissociated from concern with everything but solid pattern. The effort to regard it in that light is as sterile as it is unnatural. If such an effort were made by architects it could only result in their leading architecture into a cul-de-sac. There is no force in the objection that the expression of character and of social and traditional qualities is so much story-telling and falls therefore within the scope of literature but outside that of architecture. In this respect architecture does not poach on the preserve of letters and do badly and in a secondary and irrelevant capacity what literature does well as its primary function. Architecture takes a portion of the subject-matter common to all the arts and presents it in a specific way. Character and social and traditional significance are not adventitious and extrinsic to the content of architecture : they are of its very essence : and architecture gives to them an expression peculiar to itself—an expression that no other art could give. So also painting, music and sculpture embody and re-present in a manner that is uniquely their own the elements of their subject-matters, whatever those elements may be, whether shared by literature or by any other art. It is precisely that difference in the mode and conditions of embodiment and re-presentation—rather than any ultimate difference in content—that distinguishes the arts from each other. A picture, a building, or a sonata can never pretend to tell a story in the way a novel can ; but that is not to say that painters, architects, and musicians must not include in the material of their art matter that would inevitably receive another and very different treatment in literature ; or that, if they do include such material, it is to be regarded at the best as of secondary importance and at the worst as a blemish or excrescence.

It is as unreasonable to attempt to simplify the distinctions between the arts by insisting on impoverishing the content of each until only elements of contrast remain, as it is to try to establish their complete interchangeability and to maintain that poetry is eloquent painting, painting dumb poetry,‡ and architecture frozen music.§ The arts have a common function, but they fulfil it in radically different ways : their stock of intuitive material comprises elements that are common to all, but they each efform the material in their own manner, by their own technique and under governing conditions proper to themselves.

* *Architectural Heresies of a Painter*, by Roger Fry (London : Chatto and Windus, 1921), pp. 9, 25–32.

† *Art*, by Clive Bell (London : Chatto and Windus, 1916), 3rd Edition, p. 8.

‡ *Laocoon*, by G. E. Lessing, translated by Sir Robert Phillimore (London : George Routledge and Sons), p. 56.

§ Fr edrich von Schlegel. Cf. also G. W. F. Hegel, *The Philosophy of Fine Art*, translated by F. P. B. Osmaston, vol. iii, p. 65 (London : G. Bell and Sons, 1920).

## VII

The function of art is to externalise intuitions, which are valued in and for themselves and their associations —valued not as possessing didactic or utilitarian merit, but simply as giving pleasure. Without that function art would be purposeless and works of art would have no *raison d'être*.* An artist is not simply a person who possesses the intuitive faculty to an exceptional degree : he is one who feels the urge and has the capacity to represent his intuitions by means of external symbols. He is impelled by a quite definite desire to impart to others what he has himself experienced. Unless that be granted, the existence of any work of art becomes inexplicable. Music is not composed, pictures are not painted, buildings are not designed in order that the artists respectively concerned may enjoy the exclusive pleasure of feeling these works arouse intuitions in themselves : for these intuitions they have already experienced : neither are such works undertaken out of caprice or mere excess of energy. To suppose that they were would be perverse and absurd. Every embodiment of art, every successful embodiment that is, whether actually executed with facility or not, has only been made possible by a laborious training in technique. It is the outcome of a serious discipline and it has, however frivolous its subject, a serious intention. It is to act as a vehicle of communication. To that end it is constructed, and in so far as it fails to convey a specific message just so far does it fail as a work of art.

Whilst intuitions, the substance of art, are mental, art itself is external to mind. Its true body and being are in works of art, apart from which it has no existence. The ability to create works of art and not the possession of an undisclosed wealth of intuitions, is the sign by which the artist is known and distinguished from other people. To speak of art as mental is to confuse its cause and its effect with the thing itself.

The externalisation of intuitions must necessarily be in terms the meaning of which is known. We establish our understanding of anything byrelating it to the rest of our experience ; and if there be no connection between the new and what we know of the old, the new remains incomprehensible for us. Thus, when it was desired to devise a new medium for international communication, the language invented had to present familiar characteristics. Esperanto is not a new language in the sense in which, for example, some of those who demand a new style of architecture understand " new." It is a *mélange* developed from existing languages, and only by having its roots firmly planted in verbal and grammatical forms that were already known could it be a vehicle of communication at all. In exactly the same way must art in general exhibit connections with traditional modes of expression. The purpose of every work of art is to convey an image or intuition and, however original the theme may be, it must be communicated in terms that are in a large measure familiar.

In painting we have recently had a happy illustration of that truth. Impressionism and post-impressionism, because they were externalised in comprehensible terms, have survived as authentic developments of art ; but the cubist and vorticist movements have collapsed largely, if not wholly, because their exponents in their modernity resolutely refused to be intelligible. The fact that, in certain directions, and chiefly through applied science, we have advanced much further than man has done at any previous period does not divorce us from the past. Our philosophy, our politics, our drama and literature, the very vocabulary in which we think and speak, all are developments of what we have inherited. No grounds exist for supposing that art should be the one exception to the evolutionary law that controls our activities in every other sphere of life. Art could, indeed, only be an exception at the expense of being significant.

## VIII

Taking art, then, as an affair of external symbols that have intuitive values or significance, we observe that when a work of art has successfully accomplished its purpose the effect of beauty results. Through the effect of beauty art is recognised as art.† How is the effect achieved ? *By establishing a complete harmony between the unity of the mental image and the unity of the externalised symbol.* Here, I submit, is the solid ground upon which the relationship of beauty to art may be held to rest. The quality of unity we know to be the invariable characteristic of all completely realised intuitions. Analysis of effective artistic activity shows that the same organic coherence must be preserved in the externalisation of intuitions and that it must be of a like nature. If this condition is fulfilled, there is beauty. Upon no other terms is beauty in art to be revealed, and art which is without beauty is not art. Any intuition, provided that it is authentic—that is, a spontaneous image known in its entirety—is potentially artistic material. Pleasant or unpleasant, it can be externalised byan artist and its presentation will be distinguished by beauty if it reflect the unity of the original. Thus we frequently encounter in literature, sculpture and painting an intuition of a repulsive subject, yet the artistic externalisation may be unquestionably beautiful. The only explanation which appears to me to meet the case and to accord with experience and observation is that in such instances there is a correspondence in unity between the thing apprehended and the thing executed.

* *An Essay towards a Theory of Art*, by Lascelles Abercrombie London : Martin Secker, 1922), pp. 45–49.

† Cf. *The Philosophy of Fine Art*, by G. W. F. Hegel, translated by F. P. B. Osmaston (London : G. Bell and Sons, 1920), vol. i, pp. 125–144.

The question of the relationship of beauty to art has been persistently debated. It has given rise to endless misconceptions and to *idées fixes* that have falsely and unnecessarily complicated the theory of art to an extraordinary degree. Most writers on art have made the initial mistake of approaching the subject from the wrong end. Because they have seen beauty to be an invariable effect of successful art they have first embarked on inquiries into the nature of beauty, inquiries which have led them ever further and further away from art itself and have enmeshed them in speculative difficulties of the most remote kind. Art, its elements and constitution, cannot be divined by resolving beauty, any more than the physical structure of things can be discovered from a study of the light that reveals them. Beauty has many aspects, or it may be truer to say that there are many kinds of beauty—for it is by no means certain that all these effects which we call beautiful can be related, can be shown to have a common denominator and to come ultimately within the same category. There is ethical beauty, the beauty of fitness, natural beauty, the beauty that is revealed by art, and so forth. What each of these things is, and whether they can all be merged in some larger concept, are questions that concern aesthetic philosophy. They have nothing to do with the theory of art ; and books which, under the title of *Aesthetic* or *Aesthetics*, profess to deal with artistic theory on the basis of some general or particular definition of beauty, by so doing befog the very issues they set out to clarify. It is to no purpose that the sixteen* or more kinds of beauty art may be supposed to exhibit are classified and analysed. Understanding of the nature and function of art is not thereby advanced one jot.† On all such points we are not called upon to interpose our private judgment. For the problem of art and the problem of beauty are separate and distinct, and all that the theory of art has to recognise is the fact that beauty occurs as a result of a work of art effecting its purpose. Beauty in art is the sign of successful achievement—a sign conclusive, indispensable, and self-sufficient. It is not within the competence of the theory of art to investigate beauty, and it is not necessary.

In another way the concept of truth has, not less fatally than beauty, proved a stumbling-block to writers on art. That it should be truthful has been assigned to art as its supreme mission. But to what must it be true ? To nature ? Obviously not always, for some arts have only a very occasional and partial concern with nature. To a religious or ethical creed ? Not more than a fraction of the images of art have a religious or ethical content. To an abstract ideal of beauty ? Beauty in art can never be imagined except through some particular and concrete illustration of it. Yet the very strength and obstinacy of the conviction that art and truth have something to do with each other forbid us summarily to reject the belief as a fallacy ; and I submit that, if we can see the matter rightly, it becomes apparent that there is a sense in which art, to be art at all, has to be truthful. Every work of art must be true to the image which it symbolises, must be so devised that it does accurately, clearly, with honesty and absolute faithfulness represent the original intuition that has inspired it. When we have said that, we have recognised the precise kind and extent of the relationship that should exist between art and truth, and we may leave undiscussed, because invalid, the different claims that have been made for art to be regarded as the constant vehicle of various objectified aspects of truth, natural, moral or otherwise.

## IX

To return, then, to our proper subject. The function of art I have taken to be the externalisation of intuitions by means of symbols. Every such symbol or work of art is designed to evoke in the minds of those who see or read or hear it a certain image or co-ordinated series of images. Something mental has to be transferred through a suitable medium. In this purpose of communication we have a definitely practical object, the whole question being one of finding means to an end. The knowledge relating to those means is what is called technique. Originally technique is derived from the results of frankly experimental processes, from the method of trial and error by which every art develops ; and the resources of technique are constantly being enlarged as the experimental method continues to disclose new possibilities. These disclosures are not always arrived at logically. Artists are often led to make a fortunate discovery of means simply by intuition—suddenly seeing the right solution of a difficulty in externalisation not by reasoning, but by immediate apprehension. For the intuitive faculty which creates the mental material of art, the faculty which is irreplaceable, unique and without parallel in logical thought, does not confine itself to the task that it alone can perform : it makes excursions into the realm of reason and there functions in place of the latter. But externalisation is a purely practical process with a practical object, and as such can, and to a considerable extent must, always be an affair of reason. If, then, intuition assist in the process, it does so, not as the only possible, but as an alternative instrument. The intellect in its rational capacity is here available for the work, competent to acquire its knowledge by generalisation logically, able to practise with selected means and deliberate aim. Technique is created by the intellect, and in it is summed up the rationalised knowledge of practice, however that may be gained, whether

* *Foundations of Aesthetics*, by C. K. Ogden, I. A. Richards, and J. Wood (London : George Allen and Unwin, Ltd., 1922), pp. 20–21. Cf. also *The Essentials of Aesthetics*, by G. L. Raymond (London : John Murray, 1907), pp. 16–38.

† *The Mistress Art : The Limitations of the Arts*, by Sir Reginald Blomfield (London : Edward Arnold, 1908), p. 139.

through reasoning or through intuition. The extent to which artists are dependent upon a logical understanding of technique varies indefinitely. Some are able to rely more than others on their intuitive faculty, which, without the aid of reflection and more or less subconsciously, carries them successfully through. None, however, can wholly avoid reasoning at least a little about what they do, and in no case is an intellectual grasp of the nature of technique as a whole unnecessary or disadvantageous.

The technique of any art must be systematised into a body of applied knowledge before an artist can effectively employ it to increase the range of his own intuitive apprehension of technical resources. Unless it were possible for the accumulated technical experience of the past to be reduced to some sort of system, it would obviously be of little use. It would be at once too vast and too chaotic. But in the experimental development of every art broad principles are latent, and these empiric laws form, as it were, the structural framework of technique. When they are clearly revealed and understood, what would otherwise be a mass of dissociated and incomprehensible data falls into proper order and becomes significant and serviceable.

The principles to be observed in the practice of art are very varied in kind. First, there are those relating to the grammar of externalisation—to accidence and syntax in literature, to harmony and counterpoint in music, to a correct use of the elements of design in architecture. Such principles must obviously be obeyed if any sort of articulate utterance is to result at all. That point I have already sufficiently stressed in my criticism of Croce's doctrine. But the practical laws of art include others of a different nature. It is the business of the artist to know and to take advantage of every influence, psychological and physiological, every motive of association and interest that will assist him to convey his message.* He must bring into play every auxiliary device that will reinforce the effect he wishes to create. And he can only do this by a conscious or subconscious knowledge of principles beyond those of the simple grammar of his art.

These principles, besides varying in kind with the technique of each art, vary also in range. Some apply to all the works in any given art, others only to a certain category of works. When I come to apply our general theory of art specifically to architecture, I shall give examples of principles that hold good for all works in architecture. Here, I propose to give two instances of principles, the one having a limited, the other a universal application in the arts to which they respectively refer.

The first is the case of a technical law affecting the externalisation of a certain kind of intuitions in painting —namely, images in which space and distance are the prime values. Deliberately or without knowing that we do so, we estimate the size of all objects in the open air by comparing them with the human figure. That is our unit of measurement when we judge approximately of the magnitude of a building, of a landscape or of any other thing to which we are not called upon to apply a mathematical scale. We do not say to ourselves that a man would go so many times into the height or width of a building or landscape, but we do judge the building or landscape to be large or small according to what we conceive to be the relationship of its size to that of an average human being. A painter confronted by the sort of subject—it might be a desert or a great sweep of moorland—that would naturally evoke an image of the order I have postulated is aware of the vastness of that subject because he feels himself to be diminutive in relation to it, and the impression of space and distance which he experiences and which constitutes, I have assumed, the most important factor in his intuition is directly derived from that fact. But the landscape which the painter beholds does not include himself as a visible feature in it ; he is on the hither side of " the picture-plane " (to use a technical term of perspective). If, therefore, he were to represent his intuition of the landscape as he actually saw it, it could not include himself. Presupposing, then, that no such object were present in the subject-matter, he would have to introduce something the size of which could readily and with fair certainty be related to the human figure. The object selected might be a tree, a road, a house or a figure itself ; but some thing or things there would have to be which would give us the key to the size of the whole. Otherwise we should not know whether we were looking at the representation of an image of a large or small subject, and so would miss an essential quality of the intuition. A principle of dimensional reference is involved and it has to be obeyed for the intended effect to be achieved in all pictorial works of this kind.

My second example is drawn from drama. It is generally conceded that a high degree of intricacy of motive and action and of subtlety in characterisation and in dialogue is ineffective on the stage. Wit and quickness of action are perfectly possible and may be valuable attributes in many kinds of plays. But the nature of practical drama prohibits the playwright, whose play is to be acted, from indulging in elaborate psychological and conversational adventures, which may be very properly undertaken in a novel. The greatest complexity of plot and the most delicate reactions of personalities to events and to each other can all be enjoyed and the last shade of meaning extracted from them in literature. For there the reader controls his own speed, retraces his steps as he wills, lingers over what he likes and savours everything to the full. Moreover, all distractions are eliminated ; he is free to focus his attention as he wishes, undisturbed. A

* *The Sense of Beauty*, by George Santayana (New York : Charles Scribner's Sons), p. 132.

play is another matter altogether. Its action proceeds relentlessly. A complex of interests unfolds itself in a continuous movement, and our whole attention must keep pace with it. Only what is clear and simple, incisive and direct can survive in the presentation of a play and can impress itself upon our minds as it passes before us. Thus, the very qualities that distinguish and make great the novels of Henry James become defects in his plays, and have prevented them from ever being successfully produced. In drama the intuition has to be projected over the footlights and its externalisation must conform to the conditions that regulate the performance of that feat. What, for lack of a better term, I will call the principle of breadth must be realised in any play that has to be acted and not simply read. For the broad effects are the only ones that ultimately tell in drama.

The principles I have indicated as being operative, one in a certain *genre* of painting, the other in all dramatic works, could be supplemented by many other examples. I have instanced them only because they are representative and show that the technical principles of an art include other laws than those of syntax—laws that really determine which intuitions are suitable for externalisation and which are not. A knowledge of such principles affecting a particular art is not less essential to the practitioners of that art than is an understanding of its grammatical resources and limitations.

Both kinds of laws require to be known as they currently obtain. Not all are permanent ; some become obsolete with changing conditions and cease altogether to be applicable ; others persist in an altered form. But to point, for example, to the fact of continual modification in the syntax and inflection of language is not to prove that speech and writing can dispense with the regulations of grammar. The grammar of Chaucer is not that of to-day. Yet to make himself understood Chaucer was as much obliged to observe the laws of the language of his time as we are now compelled for the same purpose to adhere to the syntax of the twentieth century. The technical principles of art are conditional. They prescribe the lines along which externalisation can be effectively achieved at a certain period, and they change only as the conditions that control our enjoyment and understanding of art themselves change.

" Rules and models destroy genius and art," Hazlitt said * ; but rules are not principles and models may be profitably studied without being imitated. For the real artist, problems of externalisation never recur in the precise manner in which they have presented themselves to his predecessors or contemporaries. Were they to do so, it would be proof that he was not an artist but a plagiarist. Yet every problem arises out of the development of art itself. Its adequate solution therefore demands a knowledge of the principles that, intelligently applied, have solved those problems of which it is the lineal descendant. In art there is, in the literal sense, no new thing. Each fresh manifestation contains elements of the old and the already known. To no new occasion is a formula applicable ; to none are ascertained principles irrelevant. We need not emphasise the fact that the mere acquisition of empiric principles cannot make an artist. The world is full of persons calling themselves artists, who have all the technique of externalisation and nothing to externalise. But though such knowledge is unable to create the stuff of imagination,† it is indispensable to the translating of that material into communicable form. Without it, art could at no time have reached articulate maturity, but would have been perpetually condemned to a state of mute abortion. Granted the gift of inspiration to any real extent, then it may be said that for the rest technique is power. An artist, however rich in imagination, is reduced to impotence if he be technically ignorant, whilst one endowed with the slenderest intuitive resources but having the requisite knowledge is able brilliantly to present his vision. For the artist the moral is plain. He must do more than labour to acquire the mechanical skill of his art ; he must comprehend its rationale. He must know the principles through which works of art effect their purpose, and learn to distinguish between the laws that rightly discipline artistic action and the rules that paralyse it. He must, in short, master the technique of externalisation.

I have now outlined as far as I conceive it to be necessary the general theory of art which I believe comprehends and reconciles the practices of all the arts. That theory, to recapitulate its main points, assumes (1) intuitive images to be the substance of art ; (2) the transmission of those images by external symbols to be the whole object which art has in view ; (3) beauty to be the sign that the object has been successfully accomplished ; and (4) technique to consist of a knowledge of the means whereby transmission can be most fully effected. On the first hypothesis, the arts are severally given a larger potential content than is allowed to them in current theories and the primary distinctions between the arts are held to be presentative. On the second hypothesis, the external nature of art is established. On the third, a correspondence in unity between the intuition and its external symbol is posited as the cause of the effect of beauty in art, the question of the nature of beauty itself being relegated to the sphere of aesthetic philosophy. And on the fourth, technique is conceived as an affair of rational and ascertainable principles, and resources are brought within the scope of technique that are not always recognised as belonging to it.

So far my architectural references have been inci-

* *Sketches and Essays*, "On Taste," by William Hazlitt (London : Grant Richards, 1902), p. 171.

† *Critique of Judgement*, by Emmanuel Kant, translated by J. H. Bernard (London : Macmillan and Co., 1914), p. 190.

dental and by way of illustration. I have yet to show that the facts of architecture as a whole consistently support the theory I have formulated and that those facts can be most reasonably interpreted in the light of that theory. To do so becomes, then, my next and final purpose.

## X

In my criticism of Croce's doctrine and in the statement of a general theory of art arising out of that doctrine, I have hitherto adhered to the use of certain terms. The mental images that constitute the material of art I have referred to as " intuitions," and the embodiment of them in symbolic form I have called " externalisation." This I have done partly because the terms are those employed by Croce himself and partly because their philosophic significance made it most appropriate to use them in the broader consideration of our subject. But now that we come to apply our theory to architecture, some modification in terminology is necessary. For " the intuition " I shall henceforth substitute " the conception " or " the idea," since these terms, however philosophically inapposite, are the ones more familiarly understood in that sense in architecture; and for the same reason I shall replace " externalisation " by " expression." As used by Croce, " expression " is limited in its meaning to a purely mental activity, to the efforming of the intuition in the mind. But in the vocabulary of architecture " expression " signifies the process of external design, and this I shall now mean when I speak of " expression."

If the general theory of art I have formulated is a sound one, and holds as well in the case of architecture as in any other art, then conceptions are the mental stuff of architecture : all architectural works are the symbolic expressions of conceptions ; and the object of these works is, by expressive indication, to transmit the conceptions from the minds in which they have originated to the minds of others. That such is indeed the elementary truth about architecture becomes, I would claim, the more evident the more closely we investigate the nature of the art.

Let us first examine the way in which an architect arrives at a design for a given subject—a house, a bank, a theatre, or whatever it may be. He begins by absorbing the programme, by familiarising his mind with all the requirements of the subject and with the special conditions affecting it. The requirements will be of two kinds—practical and spiritual, *besoins matériels* and *besoins moraux*, as Guadet has called them.* If, for example, the subject be a bank, the practical needs will comprise the provision of adequate space, light and ventilation for the public and staff, the disposition of the elements of the plan so as to secure the greatest efficiency in the working of the bank, the inclusion of all the necessary technical equipment of such an institution, and the ensurance of sound construction throughout. Particular conditions of latitude, locality and site will influence the treatment of these practical requirements, and will therefore have to be taken into account. The spiritual needs will be made up of the qualities or attributes that should be associated with a bank—solidity, dignity and sober opulence, qualities indicative of financial strength and integrity. And their interpretation again will naturally be influenced by racial, national social and historical factors.

The architect then first studies the programme to grasp and digest all that is implied in it, to appreciate it in all its aspects. As a result of this digestive process, in which the rational faculties normally do much of the work of assimilation, a conception embodying, or apparently embodying, what is required presents itself to his mind. This conception or idea may, when subsequently examined, prove not to be one that can be satisfactorily developed ; in which case it will be found to have arisen from an imperfect absorption of the programme. It will therefore be abandoned and the study of the subject continued until the right kind of idea is discovered, or rather discovers itself.

For, however much logic may have been exercised in the preliminary understanding of the programme, the idea that occurs in the mind of the architect as a final conclusion comes not by reasoning but by intuition. Whether it emerges slowly by almost imperceptible stages or whether it flashes into consciousness at a single stroke, it is still something apprehended by the imagination, not a thing logically deduced by the intellect.

The fundamental characteristics of such an image or conception it is not easy to define, because the image has nothing to do with words and cannot properly be represented in them. Perhaps for this reason the fact that it really is distinct and separate from the building that symbolises it is not always appreciated. Architects in general receive a definitely stylistic training—by that I mean a training in the traditional forms of a certain convention or of certain conventions, Classical, Mediæval, Byzantine, etc., as the case may be. They come to think architecturally in the terms of those styles. The consequence is that their architectural conceptions are clothed almost from birth in traditional forms, and it becomes difficult, and sometimes nearly impossible, to recapture the perception of them in their original state. Certainly, where small and relatively simple conceptions are concerned, the stylistically trained mind operates with such swiftness that no appreciable interval elapses between the arrival of the idea and its transformation into terms of style. The change will often be so quickly effected in the mind that it will take place in the act of sketching ; it will seem not to follow but to synchronise

* *Eléments et Théorie de l'Architecture*, by J. Guadet, Tome i, p. 179.

with the occurrence of the conception, and so will not be apparent as a change at all. Hence the small and simple idea—of such a thing, say, as an elementary type of obelisk—is not a favourable example for illustrating the difference in nature between what is mentally apprehended and what is subsequently developed for embodiment in external form. A large and complex programme affords clearer evidence. Let us take as our instance a scheme for a great group of University buildings. In such a case it will be realised that the conception must so present itself to the mind that it has consciously and deliberately to be translated into terms that will make it explicit. A highly trained architect of long experience will most rapidly transcribe the conception into terms that are intelligible; but, when that conception is of such magnitude and complexity, even he will realise the difference between his inspiration and the stylistic expression of it.*

Difficult though it is to describe verbally the nature of the intuitive conception that must be at the back of every real work of architecture, it is yet possible to give an approximate definition of it. The image or idea must of necessity be a visual one ; it is something *seen* by the mind. I approach as near to an adequate account of it as I can hope to do when I say that it is an intensive and synthetic vision of architectonic form ; not a vision simply of pattern, of composition in mass, line and space, but a vision which is informed by the essential spirit of the subject, by its purpose, structure, social significance and traditional heritage (according to the relative importance of each in the conception), by its whole complex interest in fact.

That all this is present in an authentic and richly vital conception, moulding and determining its character, can be demonstrated by illustrations. We may suppose an architect to-day to be commissioned by some archæologically-minded client to design a building which should meticulously adhere in type and detail to a Doric temple of the fifth century B.C. So limited by his programme, his conception could comprise very little more than the qualities of a formal composition in a dead language. But let us imagine the architect to be entrusted with the design of a modern theatre. At once the range of his material is immensely extended. His conception can now be so enriched that it becomes instinct with life. For a theatre is a subject that is related to our experience in an infinite number of ways ; and a vivid apprehension of these relationships can be an integral part of the conception, and must be, if the theatre, as it is externally expressed, is to have for us a significance that is not only direct but intimate. What is true of the conception of a theatre is true also of the conception of all other vital programmes in architecture. Their spiritual content can be and ought to be visualised in the original idea. If it is not, the resultant expression will be no more than an empty shell.

At different times in the history of architecture a different degree of emphasis has been laid upon one or another of the possible elements in the content of the architectonic conception. During the Renaissance the character of the programme emerges as a primary element in the idea. That is plainly evident from the buildings which express the conceptions of the time. A subject's proper place in the hierarchy of architectural programmes was made abundantly clear. Buildings in the main revealed unequivocally not only their particular purpose, but their relative importance in the social fabric of the city and the state. The tendency then exhibited has become even more marked in modern architecture, and our interest and appreciation never fail to be stimulated in consequence.

The architects of the Middle Ages, on the other hand, were chiefly attracted by the constructional possibilities of their programmes, and the prime values of the conceptions which they externalised in stone were often structural. Sometimes their results were distinguished by extraordinary impressiveness, for a great architectural opportunity and a parade of audacious construction may go hand in hand : or rather, to put the case more accurately, there are occasions when to rely upon and to accentuate the display of the structural element in the conception is to extract the most that the programme has to offer.

It is, however, possible to misread this lesson of Mediæval architecture, and there are not wanting to-day theorists who do so. They see construction not as one among many elements in the programme : under all conditions it fills the whole horizon of their vision. All architectonic ideas to them are constructional ideas, and they visualise construction never as the servant of the conception, but always as the conception itself.† Now it cannot at any time be wholly that. It is not so even in the greatest *tours de force* of Gothic building. Always there are other elements present in the subject and ex-

* " Dans le plus vaste programme, en effet, vous faites d'abord abstraction des détails pour apercevoir seulement deux ou trois, peut-être quatre ou cinq grands groups, d'importance diverse, dont vous concevez la proportion réciproque. Lequel devra avoir la position prépondérante, lequel aura la plus grande ou la moindre étendue ? Questions toutes de programmes et d'intelligence des besoins et de l'effet. Puis, marchant de l'ensemble aux sous-ensemble, du corps de bâtiment à ses détails, vous avancez facilement, si votre grand point de départ est judicieux, surtout s'il est *trouvé*, réservant au besoin pour l'étude ultérieure bien des détails dont on fait crédit à la composition, pourvu qu'elle présente l'étoffe suffisante, et les cadres les plus propices.

" Le raisonnement, la critique, dont je ne prétends nullement faire abstraction, viendront à leur tour, pour contrôler votre conception, car après avoir imaginé, il faut que vous sachiez être les propres juges de votre imagination." (*Eléments et Théorie de l'Architecture*, by J. Guadet (Paris : Librairie de la Construction Moderne, 1909), Tome i, Livre 2, chap. 2, " Principes Directeurs," p. 101.)

† *Architecture*, by W. R. Lethaby (London : Williams and Norgate), pp. 237–251.

pressed in the work, elements principally of religious import. And in the great majority of Renaissance and modern programmes construction is called upon simply to give effect to conceptions of which the first and foremost values are those of character, of social significance and of pattern.

Obviously the architect should be fully acquainted with construction, for the understanding of structural principles must after all be a preliminary condition to any practical activity in architecture: moreover, the possibilities of construction themselves influence and in certain respects determine architectonic ideas. Therefore the greater the constructional knowledge of the architect, the richer will be his conceptual resources. But construction is in most cases no more than an instrument of architecture—its means, not its end: and it is not reasonable to elevate it to the perpetual occupation of a dominant place. Still less is it justifiable to pretend that the pursuit of construction in its most detailed aspects will lead to the automatic evolution of an architectural design. Architectonic conceptions are not built up to through mechanical processes, nor can they be left to happen fortuitously as a result of such processes.* The conception must in every case precede and dictate the form of the thing built. Constructional motives sometimes dominate in the conception: sometimes they are of secondary importance. But under no conditions is a knowledge of construction sufficient to generate the whole mental substance of architecture. There is a specious plausibility about the assertion that architecture is no more than a grandiloquent and pretentious name for honest building. In the professed interests of common sense the issue is, however, oversimplified when architecture and building are treated as synonymous terms. The word "architecture" has not been invented to give a fictitious and mysterious dignity to something that is really a very elementary matter if only it be analysed in a straightforward manner. Architecture is specifically distinguished from building because, whilst it includes that practical activity, it transcends building in content and in intention.†

In my definition of an architectonic idea I have included form as well as subject-matter. Every architect who analyses his own mental experience will recognise that his conceptions for buildings of any nature have one characteristic in common: they are each unities. That is the test of their reality for him. To be sure that he has a definite conception of a given programme he must apprehend it as a unity. There is no exception to this rule. All architectonic ideas that are authentic, to become realisable, have to exist as complete entities, whole, in our imagination. Such unity is more than a unity of pattern: it is a unity of the idea as well. The idea and its pattern are separable in the case of a true conception only in theory. As they exist in the mind they make one thing, an image so composed that it produces a single dominant impression, an image to which nothing can be added and from which nothing can be subtracted without detriment to its integrity.

* *Form in Civilisation*, by W. R. Lethaby (London: Oxford University Press, 1922), p. 90.

† For a complete misunderstanding of the relation of construction to architecture vide *The World as Will and Idea*, by A. Schopenhauer, translated by R. B. Haldane and J. Kemp (London: Paul. Trench, Trübner and Co., 1891), vol. i, pp. 276–281, and vol. iii, pp. 182–192.

## XI

The transmission of architectonic ideas is accomplished by expressing them in buildings. To be effective the expression must be in known terms: a language must be used which can be understood. Architecture has at its disposal a number of languages, called styles. None of them are of mushroom growth, none have been immediately created. Nor from the nature of things could they be. People who demand an entirely new style usually do so on one of two grounds—either on the plea that we live in a new world, or else because they consider that recent discoveries in materials and combinations of materials have rendered obsolete the forms used in conjunction with older constructional systems.

Those who put forward the first argument imperfectly grasp the nature of architectural development. In the history of architecture there is no abrupt wiping of the slate and starting again with a system of notation that has no antecedents. Constant modification takes place in the forms of the terms used, in their grammatical structure and inflection; but the changes that occur are the work of generations and not of individuals; they are orderly and evolutionary. Even between styles so different as Classic and Gothic or as Gothic and Renaissance obvious connections exist. When one social state succeeds another, it does not wholly blot out all the influences of the preceding one. The architecture which arose in Western Europe on the withdrawal of Græco-Roman civilisation derived its embryonic forms from the basilicæ, the aqueducts and the great vaulted buildings of the Empire. It at first merely tried on a lesser scale to transmute, into small stones and mortar, conceptions which in imperial days had been embodied in structures of concrete, brick and marble. When the Renaissance transformed the world of the Middle Ages, the vital architecture that was produced as a consequence was not Classic: it was Classical—an architecture in which many of the major elements were of antique origin, but which in its character was profoundly affected by Mediæval influences, showing themselves in composition, in roofing, in fenestration and in surface modelling generally. The Renaissance did not obliterate Medival civilisation: it gave it a new spirit and a new direction. Whatever was fit to survive the new conditions did

so; and how much in architecture was able to survive may to some extent be realised if we compare, say, the Palazzo Riccardi, the Château des Maisons, or St. Paul's Cathedral with any known building of Greek or Roman antiquity. We to-day are the inheritors of the Renaissance tradition and attitude to life—not the direct inheritors—such passages as the Romantic Movement and the Industrial Revolution have intervened between us and it. But we are still in the same line of descent. We have elaborated our inheritance in many directions and profoundly modified it in so doing: we have not outgrown it. Continually and inescapably it is with us, manifesting itself in our judgments and behaviour in every phase of civilised life, so obviously evident that the fact needs no confirmatory illustration in art, letters, science, philosophy, religion or government. The novelty of our world consists not in its being isolated from what has preceded it—for that it is not—but in being more complex. Modern architecture, if it is truly to express our civilisation, must therefore do so in terms that share their past with it.

All that we know of the development of architecture combines to refute the contention that recent discoveries in material make anachronistic the continued use of detail motives which have hitherto been associated with stone, brick or wood. The lithic architecture of ancient Egypt is characterised to the very end by the use of shapes and profiles that were unquestionably derived from mud and reed construction. If, as would now seem probable, the Greek Doric order owed less to wooden prototypes than was once supposed,* the evidence for the timber origin of the forms of the Ionic temples of Asia Minor is increased rather than diminished.† And Roman Imperial architecture, which developed so largely the use of concrete and brick, perpetuated the practice of the Greeks in much of the detailed articulation of its conceptions. For the truth is that the elements of architectural form are not always governed by construction to such an extent that a change in material is instantly echoed by a change in form. The response is often far from being so immediate; sometimes it is only partial; sometimes it never takes place at all; whenever it does occur it is always gradual, an affair of imperceptible modifications. If it were not so, the formal vocabularies of the various languages of architecture would always have been in such a state of flux, so much at the mercy of every shift and change and discovery in materials and construction, that no coherent utterance would have been possible in any of them. The stylistic conventions, Classic, Byzantine, Mediæval, Renaissance, would, as we know them, never have matured. Style and construction should certainly not be conceived as things which can be completely separated in a proper development of architecture. If they are put in watertight compartments, the result must be prejudicial to the general health of the art. Interaction should naturally take place between them. Were it to be artificially prevented from doing so, architectural design would be cut off from one of the chief sources of its vitality. But we have to remember as well that enduring architecture uses materials for its own ends, and that it has other things to do than to act as a mirror to mechanical science.

Into the question of the precise degrees of relevance which the known styles of architecture may have for the purposes of the modern architect I do not here propose to go. A more or less general agreement seems to have been reached that in the case of secular programmes a development of the Renaissance or neo-Classic manners is most fitting; whilst for ecclesiastical subjects the Mediæval or Byzantine conventions are appropriate. Whatever mode of expression may be selected it is indispensable that the architect should have more than a superficial acquaintance with it. He must thoroughly understand the principles that underlie the methods of composition adopted in it and that govern the handling of its minor forms. By their nature the elements of architecture are more plastic and flexible than those of literature, but they can only be intelligibly handled and disposed on a grammatical basis.‡ The architect must be expert in this because the grammar of style is a fundamental portion of the technique of architecture.

## XII

The rest of architectural technique is made up of principles non-grammatical in kind, but not the less directly affecting the expression of architectonic ideas. Their widely different characters, but equal validity, will be exhibited in the following examples. A building may be, and in modern practice frequently is, so designed as to be stable in reality, but not in appearance. That commercial type will serve as an illustration in which a heavy stone façade is supported on concealed stanchions and rises directly above an unbroken horizontal screen of plate glass. When this arrangement is adopted we recognise that the architectonic effect of the work is prejudiced. Why? Because we are so constituted that we always demand in buildings not merely sufficient actual strength, but the visible appearance of strength—and that to a degree often in excess of what is scientifically necessary.§ The mind in contemplating

* *The Foundations of Classic Architecture*, by H. L. Warren (New York: The Macmillan Co., 1919), pp. 175–197.

† *Ibid.*, pp. 270–296.

‡ For an admirable statement of grammatical principles in design vide *The Things which are Seen*, by A. Trystan Edwards (London: Philip Allan and Co., 1921), pp. 137–219.

§ *The Architecture of Humanism*, by Geoffry Scott (London: Constable and Co., 1914), pp. 211–213. Cf. also *Eléments et Théorie de l'Architecture*, by J. Guadet (Paris: Librairie de la Construction Moderne), Tome I, Livre 2, p. 114.

such a building as I have indicated is disturbed by the failure to satisfy a principle, the principle of apparent stability. This principle is extrinsic to the grammar of architectural design ; nevertheless in architecture it exerts a profound influence upon the effect of design. Its observance is, in fact, essential to the successful conveyance of an architectonic intuition.

Again, an architect in expressing his conception of a programme must take into account and must avail himself of the spatial factors of the particular environment in which the work is to be placed. Where the site is bordered by narrow streets and is surrounded by houses closely ranged, he will find that the effective scale of his design can be much smaller than if it were to occupy a position less enclosed. For, as Guadet has pointed out, the relative proximity and dimensions of a containing background exert a powerful influence. A vase, he observes, when placed in a small room will appear large, in a by-street its size will seem to contract, whilst in the midst of an open *place* it will become comparatively insignificant.* The principle implicit in this illustration is that the scale of objects varies in inverse ratio to the cubic volume of the space that contains them.† All architectural compositions and their individual elements should therefore be designed with regard to that principle ; otherwise they will fail of their effect and produce a false impression one way or the other, either by exaggeration or by under-statement.

Instances revealing the force of many other principles could be given. One more will suffice, one that is really implied in what I have already said about the necessity of expression in known terms. The styles of architecture have each their own historical and functional associations ; a complex of ideas is, however unconsciously, connected with each. Exotic styles possess for us a significance that is necessarily remote, but with the meaning of traditional conventions that are not alien to our civilisation it is possible for us to be more or less intimately familiar. The various manners of Greek and Roman Classic, of Byzantine, Gothic and Renaissance architecture evoke mnemonic echoes in the mind, elaborate reflexions of thought and feeling. Their capacity to do this can be used to implement design. The more deeply a given architectural programme has its roots in a comprehensible tradition, so much the more effectively may it be embodied in a manner expressive, not of its ultimate origin—for the statement of that would be an anachronism—but expressive of its general lineage and inheritance. So presented it has an atmosphere and establishes relationships with our experience that enhance and intensify its effect. An architectural work without traditional connections is conceived and judged, as it were, in a vacuum ; whilst one that has such connections, but of a foreign and irrelevant kind, still remains, though to a less degree, isolated and imperfectly understood. We have to recognise that a principle of association or stylistic apposition exists and that it must be conformed to by all architectural works that aim at satisfying something more than our sense of abstract pattern or of utilitarian fitness.

All the principles of architectural technique, including both those of the sort I have been indicating and those which relate to the grammar of design, are contingent, that is to say they are only conditionally true. Many of them, particularly the grammatical ones, are liable to be modified in the course of time. That circumstance does not rob such principles of their force and validity. They hold under given conditions and, so long as those conditions obtain, obedience to the laws controlling design under them is necessary. What the architect, then, has to know are the laws of the grammar of design and of general technique that give real effect to his aims in the age in which he lives. I will content myself with giving a single instance only, referring to a technical law of the non-grammatical type, that will show how the demands of one period may differ from those of another. It is evident from the design of the north portico of the Erechtheion that the Greeks of the fifth century B.C. had come to require from lithic architecture a much slighter assurance of strength than did the Egyptians of the New Empire. So our descendants five hundred years hence may interpret the principle of apparent stability more generously than we find it possible to do to-day. They may experience nothing disagreeable in the spectacle of a great stone-sheathed façade seeming to rest upon plate-glass. The existence of concealed steel or reinforced concrete supports may be present in their minds in a way in which such things cannot be for us, unless they or some substitute for them are visibly indicated for the satisfaction of our eyes.

If all the principles of architectural technique are not constant and immutable, the fact of modification occurring from time to time in many of them does not deprive technique of its reality. At all times there is a body of empiric laws which are valid so long as certain conditions govern appreciation. In the last resort it may not matter how the architect comes to know and obey these laws, whether by intuition or as a result of rational thought, but to produce his effects he must know and obey them.

For that reason alone, the early training of an architect should involve purely formal studies in grammatical and stylistic composition. The elements of architecture as manipulated by the student do not always need to be expressive of any authentic conception in his mind. He has to be drilled in the correct use of technical forms as a gymnastic discipline for its own

* *Eléments et Théorie de l'Architecture*, by J. Guadet (Paris: Librairie de la Construction Moderne, 1909), Tome I, Livre II, pp. 143–144.

† For another statement of the principle vide *La Composition Decorative*, by Henri Mayeux (Paris : Librairies-Imprimeries Réunies, 1885), p. 110.

sake. When he really has something to express he will then, as a result of his practice in abstract composition, be able to state it clearly and with precision. Those formal exercises of students that relate to no inner conceptual ideas are not therefore to be despised. They are a means to an end, a necessary part of the education of the architect.

## XIII

The whole technical education of the architect must be directed to this one end—to make it possible for him completely to express his conceptions. His buildings must perfectly symbolise and re-present his architectonic ideas. And this brings us to the question of how far and in what way architecture and truth are connected. Ruskin in his *Seven Lamps of Architecture* included truth amongst the seven.* He gave it second place in the curious company of principles which he invented for architecture. Later writers have preferred it to a first position.† Truth itself in architecture they have held to comprise, more or less vaguely, fidelity to nature or to the laws of nature (laws which they have discreetly left undefined), the display of construction and of the actual qualities of the materials used, and, more recently, the expression of purpose.‡ But a theory of architecture which asserts that every building to have architectural merit must primarily exhibit connections with nature, must reveal the whole of its structure and the substance of its fabric, and must proclaim the utilitarian functions it will be called upon to fulfil, such a theory insists on too much and insists on it from a false standpoint. All architectural programmes are not composed of the same ingredients, and the content of the conceptions arising out of them varies indefinitely. There are in different styles countless examples of successful works that cannot be brought within the category of truthful architecture as understood by many of the nineteenth century theorists. Some buildings dispense with any even conventional reference to natural forms.§ The structural skeleton of others is less evident than that of a human being, their surface treatment no key to the material that underlies it; others again neglect to demonstrate the specific practical needs they serve. Nevertheless they are very beautiful expressions of architectonic ideas that could only so have been expressed. Because they do not happen to illustrate some general aspect of truth, natural, structural, material or functional, they are not therefore dishonest works. They do illustrate the only kind of veracity that may fitly be demanded of buildings where and whenever erected. They are true to the images they re-present. Falseness in architecture occurs when a given work, that is not merely a technical exercise on paper, expresses no real conception or when it expresses it disingenuously. Truth is found when there has been something to express and the expression has been adequate.

## XIV

The complete representation of an architectonic idea includes the expression in external form of the unity of the idea. This rules out of architecture once and for all the possibility of successful design by agglomeration. That method of evolving plans and elevations by adding element to element and fitting them together without regard to the totality of the result is incompatible with the production of unity of effect. For the parts, though collectively they compose the whole, do not precede it in conception. Similarly the unsubordinated activities of a body of craftsmen can never result in a work of architecture. The greatest mediæval cathedrals were certainly not the outcome of that sort of co-operation, much as enthusiasts for the mediæval guild system would like to think they were. Chartres, Rheims, Amiens, Notre Dame, each is the definite statement of a dominant idea, the unity of which is maintained in every part of its structure. Whenever Gothic craftsmen were given a free hand to erect a building according to their own notions and not in pursuance of a preconceived idea, the result of their activities offered in place of unity a host of competing interests.‖ These interests, though very intriguing to the lay amateur, are without value to the student of architectural composition. So they must always be. For the accumulation of such interests, so far from creating architecture, destroys all architectural effect, since none of them is adjusted in relation to the others, and there is no proper subordination of the parts to the whole.

In architecture the architect must of necessity be supreme. His mind generates the conception and must control the execution of it. At the same time a merely mechanical rendering of his designs is never to be desired. There is this in common between the work of the architect, the playwright and the musical composer: they are all three dependent on executant aid. If they rightly appreciate their position they exploit that aid to

* *The Seven Lamps of Architecture*, by John Ruskin (London : George Allen, 1905), pp. 51–124.

† *Essentials in Architecture*, by John Belcher (London : B. T. Batsford, 1907), pp. 11–20.

‡ *How to Judge Architecture*, by Russell Sturgis (London : Macmillan and Co., 1904), p. 32.

§ That they equally fail in fidelity to the laws of nature goes without saying. But I have not thought the fact sufficiently important to be mentioned in my main argument, because the phrase " laws of nature " is simply one of the stock *clichés* of that evangelical eloquence which Ruskin popularised in artistic criticism and, in the connection in which it is employed, is meaningless.

‖ *A History of French Architecture from* 1494 *to* 1661, by Sir Reginald Blomfield (London : G. Bell and Sons, 1911), pp. 22–39.

the fullest extent. In the conception of a great play, a great symphony or a great building there are potentialities that can only be brought out by the skilful executant: there is suggestively indicated, by the nature of the conception, scope for an individual interpretation that will and should enrich the statement of the fundamental idea. For the successful practice of architecture there must be intelligent collaboration between the mind which conceives and the mind which executes; but the first must dominate the second.

Between architects who see things in the same way and work sympathetically together collaboration may take place almost on the plane of conception. They may have the same kinds of architectonic images: by means of sketches and drawings they may exchange them and, by pooling their ideas, may produce a joint conception which embodies the best points of their several contributions. Collaboration on this plane, for obvious reasons, is rarely possible between more than two or three minds; and even then one of those minds usually establishes an ascendancy over the others. In any case, once the stage of conception is passed, the executive collaboration that must then follow is of another sort. It is not necessary that executant craftsmen should be reduced to the level of mechanical slaves, neither, on the other hand, should they be suffered to usurp control. Their abilities must be both stimulated and restrained in order that the integrity of an idea may be preserved and a true and vital unity maintained in the work.

As I have previously observed in stating my general theory of art, an enquiry into the phenomenon of beauty in all and each of its manifestations—natural, artistic, ethical, intellectual, utilitarian, etc.—is the affair of that branch of philosophy known as Æsthetic, and is in no sense within the scope of our province. Our business is with the art of architecture: that is what we have proposed to analyse, not the nature of the special kind of beauty which is exhibited as a consequence of the successful practice of the art, still less beauty in general. Those who, in dealing with architecture, have mixed up the study of beauty with the study of the art have involved themselves in inextricable confusion of thought in consequence. Instead of seeing beauty, or rather a special phase of it, as a quality resulting from architectural activity, they have treated it as the essence of the art. They have conceived it to be their first task to examine the constitution of beauty, to determine what it actually is. For they have considered that, if they could establish its real character, they would then have a standard or standards of criticism by applying which it would be possible to test the merits of any work of architecture. The attributes of beauty being discovered to their satisfaction, they have proceeded to judge architectural works according to the degree to which such attributes are apparent in them.

Hence has arisen what is called, in a doctrinaire sense, educated taste—a faculty trained to appreciate architecture only in so far as the latter accords with preconceived ideas of beauty.* These ideas are subject to continual change. At one time beauty in architecture is held to consist in fixed proportional relationships supposed to be derived from the human figure † or simply in the use of forms having a certain geometric basis: ‡ at others, beauty is identified with the expression of a religious influence,§ with naturalism,‖ with efficiency,¶ or with constructional truth.**

Thus, in this last case, a building whose structure is strictly limited to its practical function and is not displayed as visible form is condemned on the ground that it is false and therefore not beautiful; and with it more than half of the most beautiful buildings in the world fall to be condemned at the same time. Any of the other hypotheses is equally untenable. The theory, for instance, which ascribes intrinsic and supreme merit to certain shapes and which would therefore make architectural composition a matter of geometric formulae imagines beauty to be inherent in external objects that have a particular volume or profile. These special forms, on this theory, are not to be regarded as being some among the many alternative means of expressing architectonic conceptions, but are to be accepted as universal and absolute ends in themselves. But all our experience teaches us that no special shape produces an effect of beauty under all conditions. The appearance of beauty in architecture arises from certain relationships being established in and through the elements of architectural design. No geometric formula can be applied to those relationships, they cannot be crystallised into a fixed form, because they are infinitely variable. They are dictated by images in which the geometric factor is not constant and dominant and therefore they themselves are not bound as to shape by any prescription drawn from geometry.

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* *The Nature and Function of Art, more especially of Architecture*, by Leopold Eidlitz (London: Sampson Low and Co., 1881), pp. 44–50; *Architectural Composition*, by J. Beverley Robinson (New York: D. Van Nostrand Co., 1908), pp. 3–7.

† *Vitruvius: The Ten Books on Architecture*, translated by M. H. Morgan (Harvard University Press, 1914), Book III, pp. 72–75. The idea received further development in the Renaissance by Alberti and others. Cf. also *Essentials in Art*, by Oswald Sirén (London: John Lane, 1920), pp. 79–92.

‡ *Ad Quadratum: A Study of the Geometrical Basis of Classic and Mediaeval Religious Architecture*, by Fredrik Macody Lund (London: B. T. Batsford, 1921). Cf. also Viollet le Duc, Gwilt and Cockerell.

§ *The Seven Lamps of Architecture*, by John Ruskin (London: George Allen), 1905.

‖ *Lectures on Art*, by William Morris (London: Macmillan, 1882); *The Poetry of Architecture*, by John Ruskin (London: George Allen, 1905).

¶ *Architecture*, by W. R. Lethaby (London: Williams and Norgate), pp. 239–242.

** *The Essentials of Composition as applied to Art*, by J. V. Van Pelt (New York: The Macmillan Co., 1913), pp. 8–13.

We have to rid ourselves of all these obscurities that are due to confounding the aim of architecture with the achievement of a fictitious standard of beauty. All the difficulties disappear if we are content to see beauty simply as an effect of the right practice of architecture, that is, as a result of an architectural work perfectly symbolising an architectonic idea and so expressing in its unity the unity of the original.

## XV

The architectonic idea to be expressed, to be translated into communicable form, has to pass through a process of expansion and elaboration. It is from the architectural work as finally elaborated that those who see it receive the artist's vision. They do so by an inversion of the method pursued by the architect in externalizing that vision. He labours to make his conception clear by developing it, by working it out in all its implications. His public intuitively synthesises and compresses what he has elaborated and so itself experiences his vision in its original intensity. There is no short cut by which the architect and his public can communicate. Unless everything that is in the conception is made apparent beyond all question in the architectural work, the synthetic vision derived from it by those who see it is so much the poorer. Everything in the idea must be exploited to its full capacity in the work or the idea itself will be impaired in transmission.

For this reason, to take a convincing example, Garnier in his Paris Opera House expresses elevationally and with unmistakable emphasis the several elements of the plan—the foyer, the auditorium and the stage. These were, no doubt, sufficiently articulated in his original conception. But he underlines as it were the whole character of the building by his modelling of its parts and by the details with which he enriches it. Every relevant association that could reinforce the main idea is pressed into service. The ornament has more than the general qualities of richness and *bravura* appropriate to the theme. In the motives used there is a wealth of pertinent symbolism. Every decorative adjunct inspired by and traditionally associated with the operatic theatre finds its place in that vast and brilliant work, intensifying its effect and with superb insistence proclaiming it to be what it is—the greatest expression of its subject in Europe. From that very elaborate presentation of the idea of an opera house, a presentation explicit to the smallest detail, converge the rays which, focussing in our own minds, reproduce there the original vision.

I have taken Garnier's masterpiece as my instance, not because the resources exploited by it are commonly in such profusion at the disposal of the architect, but because the building demonstrates that the more fully the whole intention and meaning of a work of architecture is made clear the more decisive will be its effect. All architectural subjects have not so rich a content. The material of many programmes is often of a simpler kind. It is possible to exhibit the main purpose and character of such subjects by little more than the straightforward handling of primary masses, of surfaces and voids. That is always in the last analysis the essential thing ; character must first of all be expressed through composition. Significant ornament, however liberally employed, will not of itself be sufficient to compensate for a fundamental obscurity in design. It becomes, indeed, an irritation and an offence when it is relied on overmuch. But as an auxiliary means judiciously used to accentuate that which is already soundly formed it is invaluable.

## XVI

Part of the impressions which people receive from contemplating buildings may, albeit very indirectly, be related to their physical experience. In consequence, a theory has been developed that would give an anthropomorphic basis to our appreciation of architecture and that would see therein the whole explanation of the nature and appeal of architecture. Mr. Geoffrey Scott, in the constructive portion of his brilliantly destructive work, *The Architecture of Humanism*,* applies Lipps's *Raumaesthetik*† to architectural design, and would have us believe that the aim of the architect is to express in external form physical sensations, such as repose and movement, that we have found satisfactory in our own bodies.‡ Certain functions of our bodies are to be regarded as the substance of architectural design, as the things that have to be translated into stone and brick, concrete and steel. It is physical memory, Mr. Scott asserts, that supplies the material upon which the artist's creative ability works, and it is to the responses of physical memory in other people that he appeals through his designs. But granted that we do, however little or unconsciously, " transcribe ourselves into terms of architecture," there is in this doctrine a confusion between the end of architecture and its means. No architect when faced with the problem of designing a house, a club, a bank or any other subject proceeds to imagine physical states appropriate to the occasion and to take *them* as his theme. The practical and spiritual elements of the programme form the image that he has to express, and that image is a mental one, in the complex structure of which there is little that has to do with physical memory. Nevertheless the idea of empathy in architecture is not wholly fallacious.§ Architectural

* Constable and Co., London, 1914.

† *Raumaesthetik* (Leipzig, 1897).

‡ *The Architecture of Humanism*, by Geoffrey Scott, p. 213.

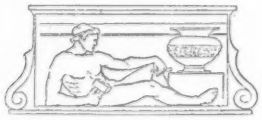
§ *The Beautiful : An Introduction to Psychological Aesthetics*, by Vernon Lee (Cambridge University Press, 1913), pp. 61–69.

works do, little though we may sometimes realise it, react favourably or unfavourably upon us in a physiological way. What the architect really does is to observe the limitations that are set on our enjoyment of architecture by this fact and actually to make use of it to the advantage of his work. Of how this may be done I have already given an illustration of a negative kind in connection with the principle of apparent stability. The appearance of topheaviness in a building, even when we know that it is structurally sound, is partly insupportable because we have ourselves found the physical sensation of bearing an excessive weight unpleasant. But there is more in architecture than the avoidance of these violations of our physical sense of fitness, and more than the positive and active satisfaction of that sense. Our whole mind, our intellect and imagination originate the substance of architecture, and they, not just our physical memories, are the final judges of it.

## XVII

At the beginning of this essay I set myself the task of formulating a theory which would ultimately endeavour to show what architecture was, what was its function and what were its means ; and I have now traced the appointed course of my argument to its conclusion. In the view I have put forward architecture is the art of expressing in material form, and so communicating, conceptions or ideas that are not expressible in any other medium or manner. Much of the substance of the ideas is drawn from a reservoir that is tapped by painting and sculpture and even by literature : but it is the way in which that substance is seen in the architectonic vision and the convention through which the vision is expressed that make architecture a separate and distinct art. Four things will determine for the architect whether any given intuition which he thinks himself to possess is a proper one to be externalised. First, he must be assured that it really is a complete idea, not merely the hint of a conception, but a conception existing in his mind as an absolute unity. Secondly, he must satisfy himself that the content of his image comprises, in right relationship, the elements that are necessary and appropriate to his programme. Thirdly, the total character of the subject-matter of his idea must be sufficiently rich in interest to justify its being stated in a work of architecture. Fourthly, his conception must be one that can be expressed within the limitations that condition his particular art. It is here that a knowledge of technical principles is of most value, for such knowledge solves the question of what is possible and what impossible in design. If the architect will sedulously occupy himself in seeing that his work in any specific instance faithfully and fully re-presents his conception, truth and beauty may safely be left to look after themselves. The purpose of the architect is to make his audience see what he has seen. To this end he must at all costs be explicit ; for those who would appreciate his vision can only capture it when it is wholly released.

In so restricted a compass I cannot pretend to have done more than indicate in the barest outline the substance of my thesis. But that thesis does not present itself as an elaborated philosophy of architecture : it is simply an introduction. Its aim has been to offer a fresh path of approach to the subject and to suggest a new treatment of it. Architecture affords and will continue to afford inexhaustible data for the development of theories ; and I do not imagine that the doctrine here propounded is without lacunæ or does not contain defective deductions which will be revealed under subsequent criticism. I can only claim for it that it attempts to relate architectural theory to a general theory of art in the current of modern thought, and in so doing to advance the analysis of architecture one step further than it has yet been taken.



# Reviews

THE LITERARY HISTORY OF THE ADELPHI AND ITS NEIGHBOURHOOD. *By Austin Brereton.* [*T. Fisher Unwin.*] *10s. 6d. net. Octavo, 294 pages with index; 27 illustrations, of which one is a site plan.*

This interesting book has been re-issued at an appropriate time. The most callous destroyer of old buildings must be struck, if he can be induced to read this book, by the extraordinary interest of the Adelphi. It is like an epitome of the second half of the eighteenth century. The first and second editions of the book are dated 1907 and 1908, and the only regret about the present re-issue is that it has, obviously for economy's sake, been reprinted as it stood at those dates. The late Mr. Henry Wheatley's valuable pamphlet on the *Adelphi and its Site* is naturally the basis of all accounts of the Adelphi. He explored the newspapers of the day when it was built and collected a mass of information as to the actual circumstances of the undertaking. As regards the Adams themselves, however, much more is now known, and pages 91–99 of the book could be revised, if not rewritten. They contain, for instance, such an ancient blunder as that of the editor of the *Fine Arts Journal*, who published James Adam's Travel Diary under Robert's name, and so confused all the dates and facts of Robert Adam's travels in Italy and Dalmatia. Moreover, the opinions quoted on Adam's architectural work sound very out of date to-day. The account that follows of the Royal Society of Arts is also now out of date. The size of the Great Room, rashly given as 44 by 60 by 48, is mistaken; it is 42 by 36 by 30 high, measured to the flat of the coved ceiling. Points of this character, however, would hardly need to be noticed except in a review in a technical journal. The illustrations of the book are mainly from Malton's fine aquatints of the Adelphi given in his well-known book, while others are described as belonging to the Gardner Collection, Hollar's views, etc.

There is an interesting account of Northumberland House, so unnecessarily destroyed in 1874. The reproduction of a water-colour drawing by H. Maund of the magnificent Adam drawing-room is particularly valuable as a key to the original drawings in the Sir John Soane Collection.

The account given of the Exchange of 1608, which occupied the Strand frontage, is particularly interesting. There does not appear to be satisfactory evidence that Coutts Bank, which followed, was the work of the Adams, although it has always seemed, from personal connections, that it would have been so. We do know that the Adams wanted the Strand frontage, but could not get it.

There is a tantalising quotation from a rare pamphlet by the Adams describing the Adelphi at the time of the Lottery. It should have been given in full in the Appendix, as there does not seem to be a copy in any public library.

It is a most unfortunate thing that, surely in " pure ignorance," as Dr. Johnson puts it, the authorities should have suppressed James and William Streets. Surely it might have occurred to some one that *James Adam Street* and *William Adam Street* would have removed any fear of mistaken identity. London street names are far too historical and valuable to be submerged in a passion for uniformity. In view of our debt to William Adam in the matter of the preservation of the Adam drawings it is particularly hard that his share in the Adelphi should have been suppressed in this way. James, of course, was second only to Robert throughout the enterprise, and deserved his recognition.

It is to be hoped that the publishers will be encouraged further to enlarge this very readable and interesting account of one of the most interesting patches of the late eighteenth century London that the destructiveness of the last hundred years has left us.

It is difficult to understand how the destruction of the Adelphi can be contemplated. The houses are always full and in demand, and if the freeholders of Mansfield Street can preserve the Adam houses left to us, surely the same can be done in the case of the Adelphi, which is far richer in personal associations with the great men of the last half of the eighteenth century, as this book so well shows.

A. T. Bolton [*F.*].

ARCHITECTURAL DRAWING. *By Wooster Bard Field, with an introduction by Thomas E. French.* [*McGraw-Hill Book Co., Inc., New York and London.*] *£1 1s.*

The sufficiently formidable qualifications of an American architectural " draftsman " are in this work stated as follows :—

1. He must be thoroughly familiar with the principles of Orthographic Projection, including Reflected Views and intersections.

2. He must know the architectural symbols and the methods of representing all forms of construction.

3. He must be acquainted with the History of Architecture, and have a thorough working knowledge of the Architectural Orders.

4. He must know the principles of pure and applied design.

5. He must know materials, their strengths, limitations and characteristics.

6. He must be familiar with lettering.

7. He should have a working knowledge of Perspective, Shades and Shadows, and Rendering.

Then, " with added experience and opportunity he may become an architect."

The purpose of the book, then, is to give such guidance to the student working alone, or with an instructor, as will enable him to become an architectural draughtsman. Whether he goes further and becomes an architect depends apparently upon himself.

There is here something of everything, and, naturally enough in a book of only 160 pages, not a great deal of anything. But, of its kind, the book is very well done and should be interesting to English students.

Of fine drawing, that something more than the mere transcription of facts to scale, it has little to say.

There are many points of American practice to be noted in the detailed constructional plates, as, for instance, the use of a " flashing block " of tile or brick with a prepared groove for the tucking-in of asphalt or lead.

It is interesting, too, to see that the architectural student in Ohio makes kitchen designing a sport with a score card and a par score of 100, which it is his ambition to achieve.

The marker searches for dropped points and marks them on the card. If any two of the stove, table, sink, or pantry are farther apart than 12 feet, half a point is " cut " for each foot over twelve ; should there be more than four doors in the kitchen a point is lost for each door ; even if the thermometer is left out a point goes ; and at the finish, when the player is perhaps all square, having regard to his architectural handicap, his opponent may discover that he has no hot water in the kitchen, and cut 20 points from his total with one fell blow.

It would appear that there is no need whatever for the American architectural student to have time off for golf. W. H. ANSELL [*F.*].

BUILDING MATERIALS. *By A. P. Laurie, M.A., D.Sc.* [*Oliver and Boyd.*] 1922.

This book is intended to be an introduction to the study of building materials, and the author, as a scientist, treats the subject in a scientific manner, at the same time confining himself to the elementary aspects of a very large field. In its 180 pages will be found useful descriptions of the materials commonly required in construction and some account of their chemical and physical properties. A short geological introduction upon building stones is followed by an account of their weathering properties. Limes, cement and concrete are allotted two chapters, followed by two on bricks and tiles. The metals are dismissed in ten pages, and a short account of timber brings us to the final chapter on paints and other covering materials. In so small a volume any adequate discussion of recent developments and research is naturally difficult : nevertheless the author has endeavoured to include references to the directions in which investigations are tending.

The student looking for a small and readily mastered book on materials will find in this volume much of what he requires, while if he has been adequately trained in natural science at school he will see in these pages how the principles of science may be applied to practical problems. ALAN MUNBY [*F.*].

# The Library

NOTES BY MEMBERS OF THE LITERATURE COMMITTEE ON RECENT ACQUISITIONS.

[*These Notes are published without prejudice to a further and more detailed criticism.*]

ITALIAN RENAISSANCE ARCHITECTURE : A SHORT HISTORICAL AND DESCRIPTIVE ACCOUNT. By Georges Gromort, translated from the French by George F. Waters. 1922. 17s. 6d. [Paris : A. Vincent.]

This is an English edition of a book already widely appreciated in this country. It is avowedly based on the fourth edition of W. J. Anderson's book on the same subject, which it admirably supplements. An English edition would probably not have been produced but for the increasing difficulty in obtaining Anderson. The illustrations are excellent, but the text inevitably suffers through translation by one who is not an architect. A. S.

DOCUMENTS DE STYLE EMPIRE. Le Luminaire. By E. Hessling. Fo., Paris. £2 2s.

DOCUMENTS DE STYLE EMPIRE. Orfèverie et Horlogerie. By E. Hessling. Fo., Paris. £1 4s. [A. Guérinet, 140, Faubourg St. Martin, Paris.]

In these two volumes Mr. E. Hessling has brought together a really splendid and most useful collection of illustrations of Empire design as applied on the one hand to lamps, candelabra and candlesticks, and on the other to clocks and silversmith's work generally. At no period was ornamental design more under the dominance of architectural ideas, and these examples will therefore be found useful by architects in many branches of their work. Other than architectural motives are also represented, and these by no means the least successful. W. H. W.

AUFNAHMEN MITTELALTERLICHER WAND- UND DECKENMALEREIEN IN DEUTSCHLAND, unter mitwirkung von H. Kolb und O. Vorlaender. Herausgegeben von Richard Borrmann. 2 vols. fo. Berlin. £4 4s. [Berlin : Ernst Wasmuth.]

These two volumes are an interesting collection of large-scale studies, printed in colour, of mediæval decorative work. They contain many valuable suggestions of the principles, as well as methods, of design observable in Gothic craftsmanship. The treatment of the structural members of a building is shown in many ways, as well as the filling of restricted spaces and covering of large areas, with schemes of meaning colour. H. C. C.

ENGLISH HOMES : Period III.—Vol. I. Late Tudor and Early Stuart, 1558–1649. By H. Avray Tipping, M.A., F.S.A. Fo. Lond., 1922. £3 3s. [*Country Life*, Tavistock Street, Covent Garden ]

This volume continues the fine series illustrating the stately homes of England, of which there appears to be an inexhaustible supply. The production is worthy of the high standard now expected from *Country Life*. The numerous examples include Bolsover Castle, Chequers Court, Kildwick Hall, Kirby Hall, Montacute House, Plas Mawr, Quenby Hall, Shipton Hall and Wollaton Hall. M. S. B.

# Correspondence

## CHARTER, COUNCIL, OR ELECTION: WHICH?

*To the Editor*, JOURNAL R.I.B.A.,—

SIR,—It is pleasant to see Mr. H. C. Corlette's letter in support of the safeguarding aspects of the Institute's Charter, and to hear from him that " members can, if they will, defend their rights in spite of election successes, in a corporate body which is not a political 'machine.' " He quite suitably points out that a resolution of the Institute is an important thing, and instances that of March 1920, on the registration question, as an example. This decision was certainly important in that it led up to the acceptance or confirmation in 1921, by the then Institute Council, of a resolution passed by the so-called Unification Committee purposing to admit all architects of the United Kingdom into the Institute. It is clear that the principle involved in this resolution was of the most vital concern to Institute members, while the approval of the Institute Council alone, on such a question, would be, as Mr. Corlette says, in no way binding upon them. I am unaware of the general body of the Institute having ever had this proposal placed before them for decision, but no doubt Mr. Corlette—who has been intimately associated with the whole matter—can tell us if it is so, or, if otherwise, what steps he may have taken unsuccessfully to secure adoption of a procedure he so rightly considers essential. For unless such approval was first obtained, the proceedings of the Unification Committee were mere waste of time. But there is another aspect of this question which is also of some importance. Are we for ever to go on pretending that even the Institute is unanimous upon either the principle or the expediency of a registration policy? It has never been shown to be so, and we know perfectly well that it is not. In such circumstances one would think that mere prudence would suggest that the aims of those who desire a register are not so likely to be eventually secured if they proceed on lines which must inevitably alienate those who hold other views, and who might, in different circumstances, be prepared either actively or passively to assist them. And Mr. Corlette, and others who think with him, no doubt appreciate that resolutions may be framed that are inadmissible under our Charter, and of very doubtful relation to the purpose for which the Institute was founded.

In conclusion, may I point out that, in the opinion of many, the recently discussed draft Bill of the present Council had a distinct merit in following the medical precedent of non-interference with the existing professional bodies. If we really seek some approach to unanimity in this matter, that method of procedure has advantages above any other. In support of this view, a recent writer* may be quoted who puts the matter admirably when he says that " We are architects first and members of architectural bodies afterwards, and if we can get away from the idea that bargaining for terms of registration and membership between professional bodies is a necessary precedent, we shall have gone a long way to securing that unity of thought and action which is an essential preliminary to the achievement of statutory registration."

I suggest that, if we are desirous of a real, as opposed to a false, unity on this involved and contentious question, procedure upon such lines might be best calculated to secure it.—Faithfully yours,

FREDK. R. HIORNS [*F.*].

* "Observer," in the *Architects' Journal*, p. 285, 14 February 1923.

## REGISTRATION AND THE YORK AND EAST YORKSHIRE SOCIETY.

*To the Editor*, JOURNAL R.I.B.A.,—

DEAR SIR,—Will you allow me to make a correction in the report of my remarks upon the Registration Bill at the meeting of 29 January? I did not say that the whole of the York and East Yorkshire Society had placed itself in my hands as regards its vote, but that the Hull section of my Society had done so. I felt it my duty, as representing this Allied Society, to voice its views and to vote according to its decision, but now that the matter is over I may add that my own personal feeling was in favour of some form of unification prior to an attempt at registration, always provided that the Council was prepared to come out into the open and to say exactly what unification meant. This course would have been best adopted by allowing the Unification and Registration Committee to have completed and presented its report. Having regard to the date at which the Institute committed itself to a registration policy, progress cannot be regarded as very creditable, and it seems worth while considering whether we should not be content to make a start with some form of voluntary registration which, when well consolidated, might lead to statutory registration. Yours faithfully,

ALAN E. MUNBY [*F.*],
*President, York and East Yorks Allied Society.*

## MEMBERSHIP OF ALLIED SOCIETIES.

*To the Editor*, JOURNAL R.I.B.A.,—

SIR,—Referring to statements which have obtained currency with regard to the mixed membership of Allied Societies, may I draw your attention to the fact that in the case of my Society 83½ per cent. of its members are either Fellows, Associates or Licentiates of the R.I.B.A., every member of the council being a Fellow or Associate. The balance of 16½ per cent. is composed not of craftsmen or quantity surveyors, but of architects and architects' assistants, who are either members of other societies, men preparing for entrance to the R.I.B.A. by the front door, or older men who are not at all likely to take advantage of any back entrance, as was suggested by Mr. Perks at the meeting on 29 January.—Yours faithfully, W. J. STENNER [*A.*],
*Hon. Secretary, Bristol Society of Architects.*

## LIGHTING OF PICTURE GALLERIES: A CORRECTION.

*To the Editor*, JOURNAL R.I.B.A.,—

DEAR SIR,—I regret that in my paper on "The Lighting of Picture Galleries and Museums" I was led by a published statement to say that the Mappin Art Gallery was copied from the Ryks Museum at Amsterdam. This, I find, is not so, for although both galleries, as can be seen by the illustrations, have been constructed on the same principles, they were created independently.—Yours faithfully,

S. HURST SEAGER [*F.*].

## EXHIBITION OF BRITISH ARCHITECTURE IN AMERICA.

The Exhibition of Contemporary British Architecture, which was sent over to New York on the invitation of the Architectural League of that city, was opened on 26 January. A court was constructed in what is known as the Vanderbilt Gallery of the Fine Arts Building and given up entirely to the English work. The Press comments upon the Exhibition have been very appreciative.

In connection with the Exhibition the League have printed an illustrated catalogue containing the Introduction which was written by Mr. Waterhouse for the exhibition at the Institute, and which was also reprinted in the JOURNAL. The subjects chosen for illustration are from the exhibits of the President (Mr. Paul Waterhouse), Sir John Burnet (British Museum Extension), Herbert Baker, A.R.A. (Union Buildings, Pretoria), Mr. Ralph Knott (London County Hall), Mr. F. M. Simpson (additions to University College), and various domestic buildings by Sir Edwin Lutyens, Mr. M. H. Baillie Scott, Mr. Stanley Hamp, Mr. Clough Williams-Ellis, and the Church of Christian Science, Curzon Street, by Messrs. H. V. Lanchester and Rickards.

## MR. HERBERT BAKER, A.R.A.

Mr. Herbert Baker, the recently elected Associate of the Royal Academy, was awarded the Ashpitel Prize in 1889 (a prize awarded to the student of the Institute who distinguishes himself most highly in any one of the Final Examinations during the year): he was elected an Associate in 1890, and a Fellow in 1900.

After serving his articles with Mr. Arthur Baker, Mr. Baker acted as an assistant to Sir Ernest George and Peto, and also attended the Royal Academy schools. He went to South Africa in 1892, where he built Groote Schuur and other buildings for the late Mr. Cecil Rhodes. After the South African War he commenced practice in the Transvaal, and carried out work generally in all parts of South Africa. He built private houses for Sir Lionel Phillips, Bart., Sir George Farrar, Bart., Sir A. Bailey, and many others. He was the architect for the new Administrative Capital Buildings for the South African Government at Pretoria, the Kimberley Siege Memorial, and the Rhodes Memorial on Table Mountain. He was also the architect of three cathedrals—at Capetown, at Pretoria, and at Salisbury, Rhodesia.

Mr. Baker's work in collaboration with Sir Edwin Lutyens in the building of the new capital of Delhi is well known. His appointment as the architect for the rebuilding of the Bank of England was announced recently.

## THE LONDON COUNTY COUNCIL AND POST-WAR HOUSING.

Mr. G. Topham Forrest [*F.*] gave one of the Chadwick Public Lectures, in the gallery of the Institute, on Thursday, 8 February 1923.

In the course of his lecture, Mr. Topham Forrest outlined the housing programme of the London County Council, as formulated in June, 1919. The Council decided to provide within a period of five years from January 1920 not fewer than 29,000 new dwellings, exclusive of those to be erected upon the cleared sites of insanitary areas. The estimated total capital expenditure involved in the acquisition and laying out of estates and the erection of the cottages was approximately £24,000,000. About 2,000 of the new houses were to be provided on the partially developed estates at Old Oak, Norbury, and White Hart Lane, and the remainder on new estates at Roehampton, Bellingham and Becontree.

Great difficulties, particularly in the early stages of the work, were experienced owing to the shortage of materials and labour, and also to the lack of transport. As regards materials, it was estimated that during the five years the huge total of 700,000,000 bricks and 300,000 tons of cement, for example, would be required. Or, to take all classes of materials, it was estimated that the full programme would necessitate the provision of 1,000,000 tons per annum—that is, over 4,000 tons per day. It was found that such large quantities of materials could not all be obtained from the usual sources, and consequently steps had to be taken to purchase materials not only in England, but abroad. In the few cases where it was impossible to obtain the same class of materials from different sources, great care had to be exercised to buy in the cheapest market: the houses were costing an enormous amount of money as compared with pre-war days, and it was essential to make every endeavour to reduce the cost to a minimum. With regard to the shortage of labour, it was found almost impossible to obtain the assistance of skilled mechanics, and as one result of this the Government passed a special Act of Parliament forbidding building work of less importance than housing, unless specially permitted by the local authority. It was so difficult to get bricklayers that special forms of concrete construction had to be employed wherever the necessary materials could be found on the site. A third difficulty was in regard to transport, and to meet the special needs of the Becontree area a jetty had to be constructed on the river and connected up with the estate by means of a new railway. All this made it clear that the only

possible hope of completing the programme within the specified time lay in the employment of one master contractor on each of the large estates. In the smaller estates which the Council owned and were already developing it was evident that one controlling influence was necessary for the carrying out of the work.

The first of the new post-war houses was finished on 7 February 1920, but since that date nearly 6,800 cottages and tenements (in block dwellings), or an average of more than seven per working day, have been completed. In this way new accommodation has been provided for 52,000 persons, which is more than the total provision made by the Council in the fifteen years preceding the war. The number of cottages erected in the three years is nearly twice the number provided by the Council during the whole of its operations in the previous twenty-seven years. With the completion of the work actually in progress, accommodation will be provided in all for about 66,000 persons. If the Ministry of Health should decide that the Council is to carry out the whole of the original programme, Mr. Forrest sees no outstanding difficulty in completing it within a very short period.

# Allied Societies

### The Northern Architectural Association.

The Annual Dinner of the Northern Architectural Association, which was held at Newcastle-upon-Tyne, on the 7th February, was attended by a large gathering of members and guests.

Mr. T. R. Milburn (President of the Northern Association) presided, and was supported by the President of the Institute (Mr. Paul Waterhouse), Mr. Ian MacAlister (Secretary of the Institute), Mr. J. M. Clark (president of the Surveyors' Institution), Mr. Stephen Easten, O.B.E., Mr. R. F. Hindmarsh (president of the Institution of Civil Engineers, Newcastle), Professor R. G. Hatton, Mr. W. J. Steele (City Engineer), Mr. W. T. Jones, F.S.A. (vice-president of the Northern Architectural Association), Mr. W. E. Stairmand (president of the Northern Counties Federation, Building Trade Employers), Mr. J. P. Allen (president of the Northern Quantity Surveyors' Association), Colonel J. J. Gillespie, Mr. A. E. Killick (Superintendent Valuer of the Northern District), Mr. Henry Bell (president of the Sunderland Building Trade Employers' Association), Mr. R. Burns Dick (past president of the Northern Architectural Association), Mr. William Hall (president of the Newcastle and Tyne District Building Trade Employers' Association), Mr. W. H. Hope (secretary of the Northern Counties Federation Building Trade Employers' Association), Mr. A. Milburn, Mr. C. E. Baldwin, Mr. W. McCulloch, Mr. G. H. Gray (assistant hon. secretary of the Northern Architectural Association), and Alderman A. B. Plummer (senior past president).

Mr. J. M. Clark (President of the Surveyors' Institution), in proposing the toast of the " Royal Institute of British Architects and Allied Societies," said that there were few towns which had finer architectural features than Newcastle, thanks to the local architects. The future of every town, he said, depended a great deal upon its architecture, and, referring to the important part which it had played in Newcastle, he said that if it had not been for the genius of Mr. Dobson, they would probably not have had such fine streets or such a fine city. His ambition had been worthily upheld by the architects who had followed him.

Mr. Paul Waterhouse, in replying to the toast, described architecture as civilisation with a capital C, and said that when they spoke of it they were really speaking of the course of human progress. " Just as a healthy mind grows in a healthy body," he said, " so I believe that the happy citizen grows in the beautiful city, and it is our pleasant business to provide the beauty which the cities want."

Alderman Plummer and Mr. Ian MacAlister also responded.

Proposing the toast of " The Building Industry," Mr. Burns Dick said there had never been a greater building era than the present, and some cities were so progressive that they even had a decent Town Hall ! The speaker caused amusement by saying that, if all the bricks used in the housing schemes in Britain were put one upon another they would reach to the planet Neptune—and then leave enough to build a new Town Hall !

Mr. Stephen Easten, responding, said he might be expected to say something of the crisis that may arise in the building industry in the immediate future. He asked them to realise that those on the employers' side who were dealing with the subject fully recognised their responsibility. It is as much in the interests of the operatives as the employers," added Mr. Easten, " that we should have a proportionate reduction in wages of 20 per cent. If we keep our wages up we are penalising the workers, who cannot pay the prices asked for houses. I trust, however, that we will be able to avoid a conflict."

### Birmingham Architectural Association Annual Dinner.

The Annual Dinner was held at the Midland Hotel on 2 February 1923, when sixty members and friends were present. Mr. Paul Waterhouse, P.R.I.B.A., was the guest of the evening, and amongst the other guests were the Lord Mayor of Birmingham (Alderman David Davis), the Principal of the University, the Chairman of the Public Works Committee, the City Engineer, and the Presidents of six of the Allied Societies.

The chair was taken by Mr. Rupert Savage [*F.*], who, in proposing the toast of the R.I.B.A., alluded to the great amount of time and the very hard work which Mr. Waterhouse put in as President, more particularly in his efforts to keep in touch with the Allied Societies.

Mr. Waterhouse, in reply, referred to the question of registration, and said that with regard to unification they all thought that it was a good thing in itself, and one worth having, even if nothing further was achieved, because it was only a reasonable condition precedent to registration, which they were all after. If there was a party in the Institute that thought that mere production of a draft Bill was in itself an achievement, he thought that party was mistaken. The Institute, he added, was marching forward. It was a big concern—too big, in fact, to be destroyed by a family quarrel. It had accomplished excellent work on behalf of the profession, and it was a pleasure to see men

who lived outside London taking such a prominent part in its activities.

The toast to the City of Birmingham was proposed by Mr. H. T. Buckland [*F.*]. He referred to certain articles on the Architecture of London Streets which Mr. G. Bernard Shaw had contributed to a certain journal, and essayed an attempt to imagine what would be the same gentleman's comments on Birmingham.

The Lord Mayor, in replying to the toast, remarked that, happily, Mr. G. Bernard Shaw was not a citizen of Birmingham, and that the city was alive and progressing. At the same time, he was inclined to ask if there was sufficient fellowship between the citizens as a whole and their governing authorities. Would it not be better if the citizens recognised that there was a partnership between the Council of the city and themselves? He said that members of the Association were in a position to make suggestions which might benefit the city as a whole. There was one subject upon which they could help, namely, housing. They were all in agreement as to the terrible condition which prevailed in Birmingham at the present time. The State-aided scheme had come to an end. It had been, in his opinion, a distinct failure. The scheme had not provided the number of houses required, and they were now told it was impossible to provide houses for the working classes for which an economic rent could be obtained. It had been suggested to him that as the working classes were unable to pay what would be an economic rent as well as the rates, it would be possible to erect houses at a rental within their means provided they were not required to pay rates. He believed that the suggestion would to a large extent provide a solution of the problem. If no houses were built, the Corporation could receive no rates, but if the houses were built and no rates were paid, the Corporation would not be any the worse off. Might it not be possible for them to forgo the rates for a period of five years, to accept half rates for a further five, and then to levy full rates. Under these conditions, houses could be let at an economic rent, and he thought it was a suggestion which deserved the closest consideration.

Councillor S. T. Talbot proposed the toast of "The Association," to which Mr. J. A. Crouch responded.

Mr. C. Grant Robertson, M.A., C.V.O., Principal of Birmingham University, in responding to the toast of "The Visitors," said that the University which he represented was a great one, but with one grave deficiency which they must endeavour to remedy. There was at present practically no recognition of the fine arts—a great loss to the city and to the University, and he looked forward to the time when this would be remedied with more than one professorship. The University was noted for its great school of engineering, but such a school was incomplete if it did not include the study of architecture and the fine arts generally—a study which could only be neglected by either the city or the University at great peril to themselves. If Liverpool could successfully establish its great School of Architecture, it could be done by Birmingham, but he would lay down one condition—namely, that it must be done with the help of the Birmingham Association and of the Royal Institute. The University was a civic one, and should therefore promote and help them towards the right sense of citizenship and the studies which this involves.

### Sheffield, South Yorkshire and District Society of Architects.

At the Annual Dinner of this Society, the Lord Mayor of Sheffield, Alderman W. C. Fenton [*F.*], a member of the Society, was entertained by his fellow members. Mr. Paul Waterhouse, who had also accepted an invitation to the dinner, made a presentation on behalf of the Society to Mr. J. R. Wigfull [*A.*], in appreciation of his services as Secretary for many years. The Lord Mayor proposed the toast of the Royal Institute.

Mr. F. E. P. Edwards, the Sheffield City Architect, in proposing "The Arts and Crafts of Architecture," said they, as architects, frankly acknowledged the debt they owed to the skilled craftsmen who gave effect and being to the designs which would otherwise remain merely castles in the air. Among the men engaged in the building industries and the ranks of their skilled workmen were many whom they valued as fellow workers in the honest fulfilment of their aims and objects. With the spread of technical education, it was not too much to hope that the era of the artist craftsman might be revived, and material conditions improved consistent with economic limitations.

## THE LIGHTING OF PICTURE GALLERIES AND MUSEUMS.

### R.I.B.A. Meeting to Discuss Mr. Hurst Seager's Paper on 5 March.

In *L'Architecture* of 10 November was published a translation by M. Léonard (of the Secretariat of the Louvre) of Mr. Hurst Seager's paper which appeared in our Journal of 23 November 1912, and a brief account of a demonstration which he gave at the Louvre at the invitation of the Directorate to the directors and architects associated with the French Government museums and art galleries. A number of eminent artists were also present.

Following this demonstration, arrangements were made by M. Léonard for improving the lighting of two side-lighted rooms at the Louvre to receive the pastels of St. Quentin de la Tour. The Parisian journals are emphatic in their praise of the system of lighting adopted, and state that the pastels have revealed fresh beauties to those who had previously seen them in the ill-lighted rooms.

The result of this work is to be seen in *L'Illustration* of 9 December. These illustrations will be shown by Mr. Seager at the demonstration which he will give at the Institute on 5 March. At this meeting a number of lantern slides will be shown together with the large collection of photographs Mr. Seager has taken in the chief European galleries.

## R.I.B.A. STREET ARCHITECTURE MEDAL.

Members and Licentiates are informed that they need not submit a photograph and elevation of a building which they wish to nominate for the R.I.B.A. Street Architecture Medal, except in cases where they wish to nominate a building erected to their own designs. The Secretary R.I.B.A. has arranged to inform architects of buildings for which nominations have been received, and will invite them to send photographs and elevations for the Jury's consideration.

## BOARD OF ARCHITECTURAL EDUCATION.

### INTERNATIONAL CONGRESS ON ARCHITECTURAL EDUCATION

The Council of the Royal Institute of British Architects have decided to hold an International Congress on Architectural Education in London in the autumn of 1924.

The Congress will consist of special meetings for the purpose of considering the history, position and prospects of architectural education with special reference to the following points :—

The revision of the methods and system of obtaining professional qualifications.

The sources of study. The use of travel.

Prizes and awards of honour.

Preliminary studies.

Detailed subjects. Draughtsmanship. Study of history. Practical handwork. Professional journals. Contact with works.

Examinations. Standards. Relation to practice. Paid examiners.

Promotion of post-graduate studies. Relation to preliminary and general education.

These meetings will be held for formal and informal discussion. Arrangements will also be made for : social intercourse ; visits to schools, museums, places of interest ; a reception : an exhibition.

The subject of the Congress, important at all times to architects, is more than ever important at the present day in view of the vital changes which are being introduced into British architectural education by the schools. It is hoped that a national and international exchange of ideas will lead to valuable future developments.

The Organising Committee of the Board of Architectural Education will be glad to receive and consider suggestions for the greater success of the Congress, which should be sent to the Secretary of the Board of Architectural Education, 9, Conduit Street, W.1.

## WREN MEMORIAL VOLUME.

The Wren Memorial Volume is now in the press, and it is expected that subscribers will receive their copies early in March. The full list of contributors is as follows :

1. Introduction by Sir Aston Webb, K.C.V.O., President of the Royal Academy.
2. Sir Christopher Wren from the personal side. J Alfred Gotch, F.R.I.B.A., F.S.A.
3. Sir Christopher Wren's Parish Churches. Arthur Keen, F.R.I.B.A.
4. The Design of St. Paul's Cathedral. Professor Beresford Pite, Hon. M.A. Cantab., F.R.I.B.A.
5. Some Recent Investigations at St. Paul's. Mervyn E. Macartney, F.R.I.B.A., F.S.A.
6. St. Paul's Cathedral. Observations on Wren's System of Buttresses for the Dome Piers. Somers Clarke, F.S.A.
7. The Crafts at St. Paul's. Laurence Turner, F.S.A., Past Master, Art Workers' Guild, and W. Henry Ward, M.A., F.R.I.B.A., F.S.A.
8. Sir Christopher Wren's Public Buildings. Professor A. E. Richardson, F.R.I.B.A.
9. Sir Christopher Wren and his Plan for London. Professor S. D. Adshead, M.A.
10. Foreign Influences on the Architecture of Sir Christopher Wren (Dutch). Arthur Stratton, F.R.I.B.A., F.S.A.
11. Foreign Influences on the Architecture of Sir Christopher Wren (French and Italian). W. Henry Ward, M.A., F.R.I.B.A., F.S.A.
12. Pembroke College Chapel, Cambridge. Dr. Ellis H. Minns and Maurice E. Webb, D.S.O., F.R.I.B.A. (Sir Christopher Wren's First Building.)
13. Sir Christopher Wren's Repairs of the Divinity School and Duke Humphrey's Library, Oxford. Edward Warren, F.R.I.B.A., F.S.A.
14. Sir Christopher Wren the Astronomer. A. R. Hincks, F.R.S., Gresham Lecturer in Astronomy.
15. Sir Christopher Wren's Contributions to Biological Science. Sir William Bayliss, F.R.S.
16. Sir Christopher Wren, Merchant Adventurer. Sir William Schooling, K.B.E.
17. The Dome and the Cross (Epilogue). Rev. A. S. Alexander, Canon and Treasurer, St. Paul's Cathedral.

The book will contain a large number of illustrations, including many in colour, and reproductions of original letters and drawings from the collections of the R.I.B.A., All Souls' College Library, etc.

The volume will be issued in three editions—viz., Subscribers' Edition, bound in buckram, price 5 guineas net ; Edition de Luxe, limited to 250 copies, bound in vellum, numbered and signed, price 8 guineas net ; and a Special Edition, limited to 50 copies, bound in leather, numbered and signed, price 25 guineas net. The size of the book will be 11¼ inches by 8¾ inches.

Intending subscribers should order copies from, or apply for subscription forms to, Messrs. Hodder and Stoughton, the publishers, at St. Paul's House, Warwick Square, E.C.4. The volume is to be published under the auspices of the Bicentenary Grand Committee and the Royal Institute, and the profits from its sale are to be devoted to the St. Paul's Preservation Fund.

## MR. HAYWOOD'S PAPER ON THE BIRMINGHAM CIVIC SOCIETY.*

In the last issue of the Journal the Editor regrets that through pressure of space the following paragraph was omitted from the report of Mr. Haywood's paper on page 229 after the first paragraph :—

I need do little more than indicate by name such obvious civic work and propaganda as the organisation of exhibitions, lectures on civic subjects by first-class lecturers, committee work on memorials and housing, work on smoke abatement, advertisement control ; designs for street accessories, and an attempt to initiate peripatetic lectures in our Art Gallery. In these and similar matters we play our part, which for some of us means rather an appalling amount of work, for although our proceedings are as brief as we can make them, there is, nevertheless, much time spent in unavoidable debate that would be much better employed in producing the thing discussed if that were possible. Perhaps our greatest work is the recently established "Advisory Art Committee." The setting up of a committee of this character was first put forward by the Birmingham Architectural Association in 1917, but, looking back, it is easy to see that the time was not then ripe for such an experiment.

The intervening five years of advocacy by the Civic Society have been years of increasing knowledge of municipal affairs on our part, and an indispensable preliminary to sympathetic co-operation with the City authorities. It is evident, too, that in this interval of time a certain hesitation on the part of the City Council has changed to trust and goodwill, without which such a committee as this could scarcely hope to be effective.

Nor do we imagine that the setting up of such a committee is an end in itself. It exists as an instrument for work to be done, and the use we make of it will be the measure of our success.

* The Paper was read before the Manchester Art Federation, not the Society of Architects.—Ed.

# Notices

## THE ROYAL GOLD MEDAL, 1923.

A Special General Meeting will be held on Monday, 5 March 1923, at 8 p.m., for the following purpose :—

To elect the Royal Gold Medallist for the current year. The Chairman to move " That subject to His Majesty's gracious sanction, the Royal Gold Medal for the promotion of Architecture be presented this year to Sir John James Burnet, A.R.A., R.S.A., Hon. LL.D., in recognition of the merit of his work as an architect."

## BUSINESS MEETING, 5 MARCH.

The Ninth General Meeting (Business) of the Session 1922–1923 will be held on Monday, 5 March 1923, immediately following the above Special Meeting, for the following purposes :—

To read the Minutes of the Meeting held on the 19th February ; formally to admit members attending for the first time.

To proceed with the election of the candidates for membership whose names were published in the JOURNAL for the 10th February 1923—viz., for Fellowship, 4 ; for Associateship, 9.

At the conclusion of the Business Meeting a discussion will take place on the paper on " The Lighting of Picture Galleries and Museums," by Mr. S. Hurst Seager [*F.*], which appeared in the R.I.B.A. JOURNAL for the 13th January 1923. Mr. Hurst Seager will show a number of slides and drawings illustrating his paper, and it is hoped that a number of members and guests specially interested in the subject will be present and will take part in the discussion.

# Competitions

## BRECHIN WAR MEMORIAL COMPETITION.

Members and Licentiates of the Royal Institute of British Architects must not take part in this competition because the conditions are not in accordance with the published regulations of the Royal Institute Architectural Competitions.

## PROPOSED CENOTAPH, PARAGON SQUARE, HULL.

The President of the Royal Institute of British Architects has nominated Mr. Stanley Hamp, F.R.I.B.A., as Assessor in this Competition.

# Members' Column

## MR. ALEX. CULLEN.

MR. ALEX. CULLEN [A.] has commenced practice as an architect at 88, Cadzow Street, Hamilton.

## CHANGES OF ADDRESS.

MR. HUGH T. MORGAN, A.R.I.B.A., has removed his office from 88 Gower Street, W.C., to 14, Gray's Inn Square, W.C.1. Telephone : Chancery 8058.

MR. C. P. GARRARD, A.R.I.B.A., has transferred his office from Wimbourne House, Tower Street, Ipswich, to 26, Butter Market, Ipswich.

## PARTNERSHIPS WANTED.

ARCHITECT, Surveyor and Civil Engineer, Licentiate, P.A.S.I., 15 years in practice, 25 years' all-round experience, is desirous of obtaining Partnership, preferably South Coast or Home Counties. Moderate capital available.—Address W. A., c/o Barclays Bank, Osborne Road, Southsea.

A.R.I.B.A. and P.A.S.I. desires to open an office in a large South Coast town in association with a London architect of standing, who is a capable designer. Advertiser is fully competent to prepare all Bills of Quantities. Good opportunity for capable designer to retain quantity surveyor's fees, and for generally supplementing a London practice. Highest credentials given and required.—Apply Box 1023, c/o Secretary R.I.B.A., 9 Conduit Street, W.1.

## APPOINTMENTS WANTED.

ASSOCIATE R.I.B.A., with 12 years' experience in good New York City offices, including Cass Gilbert, Trowbridge and Ackerman, J. Armstrong Stenhouse, Fredk. Sterner, finds it desirable, for family reasons, to return to England, and would be glad to hear of any suitable proposition. Previously in practice in London. Now and for past two years engaged as designer with one of the best known younger New York men. For further information apply Box 1513, c/o Secretary R.I.B.A., 9, Conduit Street, W.1.

ARCHITECTURAL ASSISTANT requires post in any capacity. Many years' experience in the Tropics and South Africa. Married ; 35. First-class draughtsman ; excellent references. An immediate appointment is essential. Not afraid of real work. Apply Box 445, c/o Secretary R.I.B.A., 9, Conduit Street, W.1.

# Minutes IX

## SESSION 1922–1923.

At the Eighth General Meeting (Ordinary) of the Session 1922–1923, held on Monday, 19 February 1923, at 8 p.m., Mr. Paul Waterhouse, President, in the chair. The attendance book was signed by 14 Fellows (including 6 Members of the Council), 32 Associates (including one Member of the Council), one Hon. Associate, one Licentiate, and a large number of visitors.

The Minutes of the Seventh General Meeting held on Monday, 5 February 1923, having been taken as read, were confirmed and signed by the Chairman.

The Secretary announced the decease of :—

John Reginald Naylor, elected Associate 1881, Fellow 1894.

William Walker, of St. Andrews, N.B., elected Fellow 1921.

Charles Frederick Innocent, elected Associate 1897.

William Arthur Webb, elected Associate 1890. Mr. Webb was a member of the Art Standing Committee from 1915 to 1920, and 1921 to 1922, and was Hon. Secretary of that Committee for Session 1919–1920.

And it was RESOLVED that the regrets of the Institute for their loss be entered on the Minutes, and that a message of sympathy and condolence be conveyed to their relatives.

The following members attending for the first time since their election were formally admitted by the President :—

Mr. F. E. Towndrow [*A.*].
Miss E. K. D. Hughes [*A.*].
Miss G. W. M. Leverkus [*A.*].
Miss Winifred Ryle [*A.*].

Mr. H. V. Lanchester [*F.*], having read a paper on " Architecture and Architects in India," a discussion ensued, and on the motion of Mr. James Ransome [*F.*], seconded by Mr. Herbert Baker, A.R.A. [*F.*], a vote of thanks was passed to Mr. Lanchester by acclamation, and was briefly responded to.

The proceedings closed at 10.10 p.m.

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**Members sending remittances by postal order for subscriptions or Institute publications are warned of the necessity of complying with Post Office Regulations with regard to this method of payment. Postal orders should be made payable to the Secretary R.I.B.A., and crossed.**

IAN MACALISTER
*Secretary R.I.B.A.*

BOXWOOD CARVING OF SIR CHRISTOPHER WREN
BY GRINLING GIBBONS

Originally in the Collection of the late James Wyatt, R.A. (1746-1813).

*(R.I.B.A. Collection)*